



CORPORATION OF GLASGOW

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**REPORT**

OF THE

Medical Officer of Health  
City of Glasgow

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**1944**

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## PREFACE.

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Now that the war has ended, it will be useful to take stock of the more important trends of sickness and mortality. To describe fully the changes that have taken place in the prevention and treatment of sickness and in the promotion of health would require an elaborate review of influences and their effects. The following paragraphs are a summarised account of the health of the city in recent times.

The war brought with it a sharp rise in the incidence of tuberculosis of about 70 per cent. above pre-war figures, and in the incidence of venereal disease of about 60 per cent. A high wave of diphtheria occurred during the earlier war years ; during 1940 almost 1,000 beds were required for its treatment. Dysentery increased in prevalence, and in the autumn of 1944 there occurred a severe outbreak of gastro-enteritis among infants, accounting for 296 deaths. Happily this episode was not repeated in 1945. The possibility of a recurrence was anticipated. With the willing aid of the press, simple advice to mothers was issued during the year on two occasions, including a recommendation to use dried milk for infants in the summer months, advice which was widely followed. Of the various infections, tuberculosis alone still remains at a relatively high level of incidence.

*Tuberculosis.*—In 1944 the cases reported numbered 2,758, which represents an 70 per cent. increase over pre-war figures. Experience shows that this war increase has ceased and that a decline in incidence is beginning, particularly among older people and children and in the non-pulmonary forms of the disease. On the other hand, little change is noted in the incidence of tuberculosis among young adults from 15 to 25 years of age. Because of the wartime rise, the death rate is likely to increase still further.

The beds available for treatment in Corporation and other hospitals, including those in Government emergency hospitals, are approximately 2,000, as compared with 1,545 before the war, but the waiting list is still large in spite of this accommodation, as the average duration of treatment is six months in the case of pulmonary tuberculosis, while a year is required for other forms of the disease. The Department of Health for Scotland has done its best to provide additional beds for Glasgow patients.

*Venereal Diseases.*—These diseases rose sharply during the war, reaching maximum figures during 1942, but they have fallen steadily since then. For instance, acute syphilis in 1944 had been reduced by 60 per cent. below the peak of 1942. The number of male cases treated then was 778, as compared with 454 last year; female cases fell from 395 to 262. The incidence of gonorrhoea has fallen, but not to the same extent. These are substantial reductions, although the incidence is still considerably higher than the pre-war figures. The publicity now given to venereal disease has greatly assisted the campaign against it. Those who think they may have contracted the disease, or who have exposed themselves to infection, now report to the clinics with much greater freedom, while the follow-up of contacts and defaulters from treatment has become more effective. As regards congenital syphilis and pre-natal infection, there were 29 known cases of the former last year (335 in 1922), while only 1·3 per cent. of expectant mothers gave a positive blood reaction (4·9 per cent. in 1925). There has been no case of blindness due to gonorrhoeal ophthalmia for some years.

*Diphtheria.*—The wave of diphtheria reached its peak in 1940, when 5,000 cases were reported and 226 deaths occurred. Immunisation was introduced, and several successive campaigns have been conducted. In 1944 2,377 cases were notified, with 62 deaths. In the first six months of 1945 there have been only 12 deaths, all among unprotected children. It is estimated that 32 per cent. of pre-school children and 60 per cent. of school children are at present immunised. Diphtheria is still too prevalent, and experience shows the importance of maintaining the immunising campaign at full pressure.

*Respiratory Diseases.*—Glasgow has always had more than its share of pneumonia and bronchitis. These diseases together take second place among the causes of death comprising the general death rate. Nevertheless the death rate for 1944 (1,126 per million of the population) is a comparatively low figure for the city, the rate for acute pneumonia (696) being the lowest recorded. An important feature as regards pneumonia is that while the average annual cases reported have remained at about 6,000 for the past ten years, though varying from year to year according to weather conditions in the winter, the deaths are 40 per cent. less than the pre-war figure. For instance during the three years 1942-44 the average yearly deaths were 1,262, as compared with an average of 2,052 during the three years 1936-38. Mortality among infants fell by 35 per cent.

This behaviour of pneumonia, culminating in the record low death rate for last year, may be ascribed to better resistance of the population and better methods of treatment. The data may be summarised in the statement that the mortality rate from the respiratory diseases is now half the rate that prevailed during the last war. Nevertheless pneumonia and bronchitis are still prevalent and severe affections in the city.

*Measles and Whooping Cough.*—The death rate from whooping cough last year was 34, compared with 86 for 1943, that due to measles being 15 as compared with 30. These are exceptionally satisfactory figures for these affections of children.

*Infant Mortality.*—The rate for 1944 was higher than usual—95 per thousand births—largely owing to a severe outbreak of gastro-enteritis during the autumn, when 296 deaths occurred between 5th August and 14th October. This serious outbreak is described in the Section on Infant Mortality. The rate for the first half of 1945 was 68 per thousand births.

*Children from One to Five Years of Age.*—The number of young children between these ages who died in 1944 was 368; this was a record low figure for the city, being half that for 1938, when 753 children died. This reduction means that the infectious diseases of childhood—pneumonia, measles, whooping cough, and diphtheria—have lost much of their severity, although their incidence continues high. This fall in severity, which began before the war years, has been accompanied by a fall in those complications which are apt to leave permanent traces of their presence.

*Summary.*—On the one hand tuberculosis remains high, though showing signs of commencing decline; dysentery has been more prevalent than usual in recent years. On the other hand, deaths due to the infections of childhood—pneumonia, measles, whooping cough, and diphtheria—are unusually low. The death rate of children from one to five years of age is the lowest recorded, as is also the death rate for pneumonia. Maternal mortality is the lowest recorded. Syphilis has fallen sharply, though still twice the pre-war figure.

*Health of School Children and of Pre-School Children.*—The health of these two groups of children has continued to improve. To select an example, children of five years old entering school are now in



better physical condition when compared with those of 1930. If these children of 1944 are compared with those of 1930, the difference is represented by gains of about 1 inch in the average height and slightly over 2 lbs. in the average weight of boys, while in the case of girls the average gains are 0·8 inches and 1·8 lbs. These are quite striking differences for five year old children, and may be regarded as direct evidence of better care and nutrition. Again, a decided improvement in the state of the teeth of school entrants on medical inspection has been observed. For instance, in the case of school entrants 45 per cent. are returned as not requiring dental treatment, as compared with from 16 to 24 per cent. in pre-war years.

These recent decisive improvements in child health and mortality can be ascribed to better distribution of essential foods, while observations show that a better standard of care and nutrition of children is being more generally reached throughout the city. The effect of these factors has been to accelerate the rate of progress which had already begun under the influence of improving conditions and of specific health measures. Indeed, the most striking single fact in the health history of the city is the downward trend of child mortality which the following table reveals :—

<i>Year</i>	<i>Infant Mortality</i>	<i>Deaths</i>	<i>Rate per 1,000</i>
	<i>Rate per 1,000 Births.</i>	<i>1-5 Years : Actual Number.</i>	<i>Population at Ages 1-5 Years.</i>
1900	153	2,754	39·2
1911	139	1,862	26·7
1921	106	1,494	19·2
1931	105	1,341	17·2
1938	87	753	9·8
1943	82	394	5·3

In this brief summary I have emphasised child life, because in a public health sense a community is judged by the health of its children. Although a great deal has been done, much is carried forward into the future. The principal environmental problem of the city is relief of overcrowding and the clearance of the considerable residue of unfit houses and congested areas.

An outstanding direct health measure about to be introduced is the National Health Service to ensure adequate medical and hospital treatment for all who need it. This measure will affect the health functions of the Corporation in the spheres of preventive medicine

and health education, while defects and gaps in the hospital and clinic system of the city will require to be remedied in order to provide a complete service in the sense of the Government White Paper.

The infant mortality rate is too high, the infections of childhood are too numerous, institutional provision for maternity is inadequate, and there are too few welfare centres. On the hospital side, the programme of expansion approved before the war has still to be carried out. The need is particularly for more beds for the general sick and for tuberculosis. A comprehensive report on the Corporation hospitals, their accommodation and functions, was presented to the Committee on Health during the year. Another hospital problem is additional accommodation for nurses in order to enable the 96-hour fortnight and other improvements in conditions of service to be fully attained.

In presenting this Report for 1944, which is again in an abbreviated form, I am indebted to Mr. William M'Kean, who has been responsible for collating and arranging the sections and for preparing the statistical and other data.

A handwritten signature in dark ink, reading "A. M. Macgregor". The script is fluid and cursive, with the first letters of each word being capitalized and prominent.

*Medical Officer of Health.*

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The number of empty houses, 344, was 91 fewer than in 1943. The figures for the two years are as follows :—

		1943.	1944.
One-apartment	... ..	223	154
Two-apartment	... ..	50	65
Three-apartment	... ..	45	33
Four-apartment	... ..	21	24
Five-apartment	... ..	96	68
		<hr/> 435 <hr/>	<hr/> 344 <hr/>

*Dean of Guild Linings.*—The number of linings granted by the Dean of Guild Court during the year to 31st August is given in Appendix, Table II. In 1944 there were 42 linings for the erection of houses, 36 of these being for one-apartments in respect of a hostel for nurses erected in the north-eastern district of the City. This is the first year since the war began that any linings have been issued.

*Meteorology.*—Weather conditions during 1944 were, on the whole, unfavourable, although mainly open in character, with an absence of particularly high or low temperatures. There were no periods of excessively severe weather, although continued low temperature was maintained during October with persistent rains. There were few periods of warm weather during the summer except for a short spell at the Fair Holidays in July. The average temperature over the year was 47·3°F., compared with 48·0° for the preceding year. The lowest temperature recorded was 21°, which occurred during November, whereas the coldest period is usually in January or February. The highest temperature was 80° in August.

Although rain was recorded on 231 days compared with 252 in 1943, the rainfall, 44·44 inches, was above the average, but it was one inch less than the previous year. Of the total rainfall, 6·79 inches was recorded in November, 5·52 in September, and 4·89 in October. Almost two-thirds of the total rainfall occurred in the second half of the year. There were 23 wet days in both October and November, and 26 in January. The only snowfall calling for comment occurred at the beginning of March.

The year was also one of the dullest on record, for there were only 953 hours of bright sunshine compared with 1,094 during the preceding year. The previous low record was 973 hours in 1924. There were

only 102 hours of bright sunshine in July compared with 198 for the same month in 1943, while the corresponding figures for May were 118 and 190 hours.

*Health Propaganda.*—Health lectures, which had been stopped at the beginning of the war, were resumed in 1943, when three central health lectures were arranged. These took the form of Health Brains Trust Meetings and were very popular, as shown in the following statement :—

Month.	Hall.	Question Master.	Number Attending.
January	... Cosmo Cinema	... Bailie John Stewart	... 900
February	... La Scala	... Sir Patrick Dollan	... 1,200
March	... Cosmo Cinema	... Dr. James Dunlop	... 900

These meetings were continued during the Winter of 1944-45 as follows :—

Date.	Question Master.	Audience.
October 22nd	... Professor John Glaister	... 900
November 19th	... Do.	... 875
December 17th	... Do.	... 860
January 28th	... Professor Noah Morris	... 850
February 25th	... Lecture—"Recent Developments in Public Health," by Professor T. Ferguson	... 500
March 25th	... Dr. Honecman	... 870

Two district meetings were arranged on the same principle, one in Cowlairs Co-operative Hall, Springburn, when there was an audience of 820, and another in Waverley Picture House, Shawlands, where the attendance was 850. Two other special lecture nights were held in Gorbals Library Hall. All these meetings were illustrated by appropriate films on health subjects.

*Addresses and Demonstrations by Health Department Staff.*—During 1944 the Medical Staff gave 246 lectures on health subjects to various audiences, including groups of women members of the Forces. The Health Visitors gave 153 addresses or demonstrations, mostly to A.T.S., W.A.A.F., and W.R.N.S. study groups.

A Civic Exhibition was held in the Kelvingrove Art Galleries during August and September, in which the Health Department had a section dealing mainly with the health problems of the growing period of life, each depicted by models, diagrams, illustrations, etc. Health

and other propaganda films were shown at frequent sessions. The Mass Radiography apparatus was transferred to the Exhibition so as to familiarise the public with its purpose.

*Legislation.*—Legislation coming into force during the year included the Housing (Scotland) Act, 1944, and the Housing (Temporary Accommodation) Act, 1944. Circulars dealing with the Emergency Hospitals Scheme, Civil Defence, Heat Treatment of Milk, War-Time Nurseries, Tuberculosis, Diphtheria Immunisation, and Domestic Helps were issued. Regulations regarding the following were made:—Restrictions in Sale of Raw Milk; Precautions against Disease among Merchant Seamen Abroad; Offensive Trades; Postponement of Publication of part of Midwives' Roll relating to Practising Midwives; Relaxation of Provisions relating to Food Preservatives, Condensed Milk, and Preserved Eggs; and Domestic Help; Power of Welfare Authorities to provide Domestic Help.

## VITAL STATISTICS.

### SUMMARY.

	1941.	1942.	1943.	1944.
Acreage ... ..	39,725	39,725	39,725	39,725
Number of Inhabited Houses	282,805	285,562	287,608	288,780
Death Rate per 1,000 Living				
—All Causes ... ..	15.59	14.04	14.18	13.91
Birth Rate per 1,000 Living	18.53	18.76	20.36	20.21
Deaths under One Year—				
After correction ...	2,267	1,863	1,825	2,108
Per 1,000 Births ...	111	90	82	95

*Births.*—The birth rate, 20.21 per thousand of the population in 1944, is slightly below the 1943 figure of 20.36, which was the highest rate since 1932. The rate is in excess of the rate for Scotland, namely 19.2 per thousand. Some of the Ward rates show increases, such as Townhead 23.4 compared with 21.4 for the preceding year, Fairfield 20.2 against 17.1, and Pollokshields 21.6 compared with 19.5. A number of reductions have taken place in working-class Wards, such as Dal-marnock 21.9 against 24.1, Calton 19.8 against 21.7, and Hutcheson-town 21.8 against 23.7. The highest birth rate was 25.6 in Gorbals, followed by Govan with 24.7. The lowest rate was 12.6 in Cathcart.

There were 1,760 births registered as illegitimate, equal to 7.9 per cent. of the total births, compared with a percentage of 7.2 for last year, which was the highest hitherto recorded since the last war, when a figure of 8.1 was reached. The highest rate was 20.2 in Blythswood

Ward, followed by 18·2 in Exchange, 14·2 in Gorbals, and 13·4 in Townhead.

*Marriages.*—There were 9,786 marriages in 1944 compared with 10,149 in 1943. This is a return from the relatively high rates which occurred in the first three years of the war, and is just about the average for the decennium 1930-40. Apart from war conditions, the general fall in the marriage rate is, to some extent, determined by the falling birth rates of twenty-five to thirty years ago.

GLASGOW.—ALL CAUSES.—DEATH RATE PER 1,000 LIVING.

1881-1890	...	24·22	1931-1935	...	13·88
1891-1900	...	21·53	1936-1940	...	14·55
1901-1910	...	19·56	1941	...	15·59
1911-1920	...	16·36	1942	...	14·04
1921-1925	...	15·49	1943	...	14·18
1926-1935	...	15·04	1944	...	13·91

*Deaths.*—The death rate from all causes, 13·91, is slightly lower than the rate of 14·18 for the previous year, and is the lowest general death rate since the war began. The highest Ward rate was 18·1 in Exchange, followed by 17·4 in Blythswood, and the lowest rate was 11·1 in Yoker and Knightswood, followed by 11·4 in Fairfield. Compared with the previous year differences in the Wards are relatively small, with the exception of Camphill with 13·0 compared with 16·6. The corresponding figures for Langside were 13·0 and 15·7.

*Causes of Death.*—The principal causes of death are summarised in the following table :—

SUMMARY OF DEATH RATES PER MILLION FROM PRINCIPAL CAUSES.

General Diseases—	1942.	1943.	1944.
(a) Infectious ... ..	645	572	821
(b) Tuberculous—			
(1) Phthisis ... ..	1,054	1,013	1,080
(2) Others ... ..	302	321	279
(c) Malignant (Cancer, etc.) ... ..	1,771	1,768	1,690
Diseases of the Nervous System ... ..	1,443	1,534	1,551
Diseases of the Circulatory System ... ..	3,401	3,390	3,285
Diseases of Respiration ... ..	1,203	1,289	1,126
Congenital Defects and Malformations (including Premature Birth) ... ..	822	787	818
Violence ... ..	759	651	565
All Other Causes ... ..	2,642	2,856	2,693
All Causes ... ..	<u>14,042</u>	<u>14,181</u>	<u>13,908</u>

The above statement summarises the principal groups of causes of death according to the International Short Classification given in Table V in the Appendix. The infectious diseases death rate at 821



per million of the population is considerably above the low record of 572 for last year. This increase of 249 is wholly accounted for by the increased mortality from diarrhoeal diseases under two years of age, the rate for which was 668 against 323 in 1943. This increased death rate from enteritic diseases was almost entirely associated with the prevalence of gastro-enteritis among young infants and will be referred to more fully in the next Section of the Report dealing with Infant Mortality.

The mortality from most of the other infectious diseases was exceptionally low. The death rate from whooping cough was only 34, compared with 86 for last year, and from measles 15 against 30. These favourable comparisons were due to the fact that although both diseases were present to a certain extent, the prevalences occurred during the summer months, when complications affecting the respiratory system are at a minimum. Typhoid fever and erysipelas, both with very low mortalities nowadays, were also lower. Influenza, with a rate of 75, was considerably below the rate of 196 obtaining in 1943, when the disease was prevalent in November and December of that year. The mortality from diphtheria has again fallen, with a rate of 59 per million of the population, compared with 77 in 1943 and 86 in 1942.

Mortality from pulmonary tuberculosis still continues heavy, the rate again being in excess of 1,000 for the fifth consecutive year. In 1944 the rate was 1,080 against 1,013 for the previous year. The following table again shows the excess mortality among women at the younger ages up to 35 years and among the older men above 45 years of age :—

	Males.		Females.	
	1938.	1944.	1938.	1944.
—15 years ...	33	32	31	45
—20 years ...	40	31	74	95
—25 years ...	72	65	93	121
—35 years ...	105	98	115	142
—45 years ...	99	116	52	68
—55 years ...	103	128	32	28
—65 years ...	58	87	20	16
+65 years ...	24	49	9	13
Total ...	<u>534</u>	<u>606</u>	<u>426</u>	<u>528</u>

The death rate due to non-pulmonary forms of the disease was more favourable, 279 per million of the population against 321 for the preceding year. It is, however, still considerably above the pre-war rate of 211 in 1937.

A reduction has occurred in the death rate from tuberculous meningitis from 210 in 1943 to 185 in 1944. Both these rates are considerably in excess of the pre-war rates of 100 in some years. The mortality among females is definitely in excess of the males, as follows :—

		Number of Deaths.		
		1944.	1943.	1942.
Males	...	86	93	84
Females	...	108	126	104

The excess among females occurs mostly during school ages. The death rate from abdominal tuberculosis at 18 per million of the population is little more than half the rate of the preceding year.

The death rate from diseases of the nervous system at 1,551 per million of the population continues to increase because of the higher mortality from intra-cranial vascular lesions, which was 1,242 in 1944 against 1,211 for the preceding year, and 1,104 in 1942. The other large group of fatal diseases of older ages, *i.e.*, failure of the circulatory system, has shown a gradual decline during the past four years. The death rate in 1944 was 3,285 against 3,390 in 1943 and 4,453 and 3,864 in 1940-41, when severe weather conditions occurred in the early part of these years and the strain of war conditions was at its greatest.

Disease of the respiratory system show a considerable reduction in mortality with a rate of 1,126 per million compared with 1,289 in 1943. This reduction is due wholly to a definite fall in the death rate from pneumonia, 696 against 840 for the preceding year. This is the lowest rate recorded for the City. The respiratory diseases are dealt with in more detail in Section III of the Report.

The death rate from congenital defects and malformations, 818 for 1944 against 787 for the preceding year, varies with the number of births, for almost all the deaths occurred in the first year of life. The death rate for cases included under violence again shows a definite reduction, 565 against 651 for 1943. This rate was as high as 876 in 1941. (Deaths among those on service are excluded from local statistics.) The age and sex distributions are here abstracted to show where the reduction has taken place :—

Males.						Females.				
—5	—15	—45	+45	Total.		—5	—15	—45	+45	Total.
1941 ...	45	57	170	361	633	33	28	44	178	283
1942 ...	48	56	137	299	530	34	23	46	160	263
1943 ...	51	47	118	234	450	23	32	31	145	231
1944 ...	45	66	79	204	394	22	21	33	123	199

This table shows the same disparity with regard to the high mortality amongst boys compared with girls, which was also evident in pre-war

years. The other salient point is the high mortality among men up to 45 and over in the early years of the war and a very definite reduction, especially for men under 45, in 1944, which is probably, to some extent, associated with the number of men mobilised for military service.

The age and sex distribution of deaths according to causes is given in Appendix Table VI. The total male deaths numbered 7,847 and females 6,756, compared with 7,789 and 7,035 respectively for the preceding year.

*Cancer.*—The death rate from cancer has been increasing over a long period with the increase in the number of persons living to older ages, at which the disease develops or becomes manifest. Diagnosis of the disease is also more accurate owing to improved technique. In 1944 there was a reduction in the death rate, 1,690 compared with 1,768 for the preceding year; as a matter of fact, the rate has not been lower than 1,700 since 1940. The death rate is usually higher in the residential districts, where a larger proportion of the population survive to older ages. Park Ward has a rate of 2,831, Langside 2,524, and Pollokshields 2,082, whereas in the working class Wards lower rates prevail, such as 1,105 in Whitevale, 1,128 in Shettleston and Tollcross, and 1,135 in Fairfield.

The following analysis showing site of lesion in relation to sex is again introduced in the following table :—

GLASGOW.—DEATHS FROM CANCER.

Site of Lesion.	Year 1944.			Year 1943.		
	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.
Buccal Cavity and Pharynx	63	12	75	71	21	92
Digestive Organs and Peritoneum—						
(a) Oesophagus ...	32	21	53	31	24	55
(b) Stomach and Duodenum ...	202	150	352	236	160	396
(c) Rectum ...	91	50	141	91	36	127
(d) Liver and Biliary Passages ...	28	33	61	23	36	59
(e) Pancreas ...	25	20	45	34	27	61
(f) Peritoneum ...	2	4	6	3	3	6
(g) Other Digestive Organs ...	136	157	293	145	140	285
Respiratory Organs ...	173	54	227	152	65	217
Uterus ...	—	95	95	—	103	103
Other Female Genital Organs	—	39	39	—	38	38
Breast ...	2	139	141	—	173	173
Male Genito-Urinary Organs	57	—	57	53	—	53
Skin ...	7	6	13	7	9	16
Other or Unspecified Organs	104	73	177	102	65	167
Totals ...	922	853	1,775	948	900	1,848

Deaths from cancer of the buccal cavity and pharynx are fewer, 75 against 92 in 1943. The decrease is relatively greater for females, but the male deaths exceeded the females by 63 to 12. In the digestive group there were fewer deaths from disease of the stomach and duodenum, 352 against 396. There occurred little change in the total deaths from cancer of the respiratory organs, males showing an increase and females a decrease. Cancer of the female generative organs was lower, both for disease of the uterus and of the breast.

Deaths occurring in the City and transferred to other authorities numbered 1,922, and inward transfers 746, compared with the respective figures of 1,923 and 822 for the previous year.

The deaths occurring in hospitals, nursing homes, and other institutions compared with the respective figures for the preceding year were as follows :—

	1943.	1944.
Local Authority General Hospitals and Poorhouses ...	3,477	3,528
Local Authority Fever Hospitals and Sanatoria ...	1,256	1,245
Local Authority Mental Hospitals ...	562	533
Voluntary Hospitals and Infirmarys ...	2,168	2,213
Nursing Homes, etc. ...	272	208
Totals ...	<u>7,735</u>	<u>7,727</u>
Percentage of all Deaths ...	<u>52.17</u>	<u>52.91</u>

### BLIND PERSONS ACTS.

During the year 1944 425 applicants were examined at the Regional Certifying Clinic, and 310, or 73 per cent., were certified blind. Of all the applicants, approximately 50 per cent. were resident in Glasgow and the rest came from other local authorities composing the Joint Committee for the Blind for Glasgow and the South-West of Scotland. As in previous years, the major causes of blindness were cataract, glaucoma, myopia, chronic septic conditions, and the vascular diseases.

The number of persons certified blind has decreased from 503 in 1938 to 310 during the present year. The age incidence has also altered; the percentage of persons certified between the ages of 16 and 45 has decreased from 19.5 to 8.4 in 1942, but increased to 18.6 of the total for their respective years in 1943. On the other hand, the age groups over 75 have increased from 12.6 per cent. of the total for the year 1938 to 28.8 per cent. for the year 1944. The age group 46 to 75 has steadily decreased from 66.5 per cent. in 1938 to 49.9 per cent. in 1944.



## SECTION II.

## MATERNITY AND CHILD WELFARE.

During 1944 there was continued activity in all branches of the Maternity and Child Welfare Scheme. A new centre was opened in Penilee in small temporary premises. Two ante-natal and two child welfare sessions and one diphtheria immunisation clinic are held there weekly. This extension of the scheme has been much appreciated in this new housing area. New centres are proposed for a number of areas, some of which were designed before the war. It is hoped that the position with regard to building will not delay unduly the erection of these centres. The facilities which they provide are eagerly sought by the public. To staff the Penilee Clinic and other additional sessions at the various centres and to meet the increase in the wartime day nursery provision, an additional temporary medical officer was appointed. The medical staff is now 14 permanent and 4 full-time temporary officers, with part-time service from 5 women.

The attendances at the ante-natal clinics were still very high. Over 70 per cent. of all expectant mothers in the city were supervised at the various centres. With the additional accommodation at Lennox Castle Emergency Hospital, the Corporation have now over 400 maternity beds available for ante-natal and lying-in patients, but this number does not meet the demand. Throughout the year all maternity units worked at high pressure and it was found necessary to continue to curtail the stay in hospital for normal lying-in cases to 10-11 days. To meet the increasing number of cases seeking hospital confinement still further provision has been arranged at Robroyston Hospital where a pavilion of 40 beds is being adapted for maternity purposes.

The attendances of infants showed a further increase over last year, and the number—130,143 attendances—is the highest figure ever recorded. The number of toddlers, however, under supervision at centres is short of the number which attended in the immediate pre-war years. On the other hand, a large number of these children are in wartime day nurseries and in nursery schools. A further extension of nurseries took place and there were in operation during the year 6 24-hour nurseries, 2 residential nurseries, and 37 day nurseries, which provided 1,900 places in all. The value of day nurseries from the social and health points of view is beyond question. In a large industrial city the need is there as an extension of the home to help



the children of families who are badly housed in congested areas ; to help the small children of large families where the mother cannot give adequate attention to them all ; to help the illegitimate child ; and to help the children of widows and widowers. Another most important aspect of day nursery provision is the unique opportunity afforded for the teaching of mothercraft. Day nurseries must form part of peace-time maternity and child welfare provision.

During the summer months the scheme for home helps for maternity cases was reorganised on a whole-time basis of employment. A senior health visitor was seconded to administer the scheme, and with the co-operation of the Ministry of Labour, press and other publicity was afforded to advertise the scheme. Later the Government scheme of home helps for other categories of families was launched nationally and was dovetailed into the maternity scheme. There are now employed over 90 home helps on a  $5\frac{1}{2}$  days a week service, with overtime for certain cases. Each help is paid the Hetherington scale for domestic workers, and payment for the help is recovered either in part or in whole under a Corporation scale of necessity. These helps are meeting a much needed want and the service is running very smoothly.

Throughout the year the staff, both medical and nursing, was busily engaged in lecturing and other forms of public health propaganda. A striking feature of the war years has been the interest shown in health matters in general and child welfare and parenthood in particular. Lectures and film shows were given to many groups—Women's Guilds, G.T.C. Companies, Youth Clubs, and the like. Courses in mothercraft of varying types were arranged for members of all three Services, and girls came from many parts of Scotland to attend certain special three-day courses. The Department has been glad to co-operate with the Educational Department of the Services in this health teaching. During the year the medical and nursing staffs gave about 300 talks and demonstrations.

*Infant Mortality.*—The number of deaths of infants after correction for transfers was 2,108 compared with 1,825 for the previous year. This figure represents an infant mortality rate of 95 per thousand births compared with 82 in 1943.

Table VIII in the Appendix gives particulars of age and sex distribution and the causes of infant mortality in detail. The information there given is summarised in the following table, which

shows the relative magnitude of the principal group causes of death as rates per thousand births, compared with previous years :—

MALES—		Rate per 1,000 Births.								
Causes of Death		1911-20	1921-30	1931-35	1936-40	1940	1941	1942	1943	1944
I. Immaturity ...	...	46	41	43	44	45	53	45	38	43
II. Diseases of Respiratory System ...	...	29	32	30	25	28	26	18	17	16
III. Diseases of Digestive System ...	...	20	15	17	19	16	22	22	19	36
IV. Diseases of Nervous System ...	...	9	7	4	4	5	8	5	5	5
V. Tuberculosis Diseases ...	...	5	2	1	1	1	1	1	2	1
VI. Infectious Diseases ...	...	15	14	12	6	5	8	3	5	2
VII. Suffocation ...	...	1	—	—	—	—	—	—	—	—
VIII. All other causes ...	...	11	8	7	6	6	7	6	4	4
All causes ...		136	119	114	105	106	125	100	90	107

FEMALES—		Rate per 1,000 Births.								
Causes of Death		1911-20	1921-30	1931-35	1936-40	1940	1941	1942	1943	1944
I. Immaturity ...	...	36	33	33	35	35	41	36	33	33
II. Diseases of Respiratory System ...	...	23	23	23	21	23	21	15	15	12
III. Diseases of Digestive System ...	...	16	11	12	13	12	13	16	11	26
IV. Diseases of Nervous System ...	...	7	4	3	3	3	6	4	4	4
V. Tuberculous Diseases ...	...	3	2	1	1	1	2	1	1	2
VI. Infectious Diseases ...	...	15	13	11	6	4	9	3	5	2
VII. Suffocation ...	...	1	1	—	—	—	1	—	—	—
VIII. All other causes ...	...	8	7	5	4	5	3	4	4	3
All causes ...		109	94	88	83	83	96	79	73	82

Ratio—Males to 100 Females	124	128	131	126	128	130	126	123	130
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Death rates among male infants from causes included in the immaturity and congenital malformations group of diseases have always been heavier and the fluctuations more violent than for females. In 1944 the female rate was the same as in the preceding year, namely 33, but the rate for males increased from 38 in 1943 to 43. Male deaths caused by congenital debility were almost twice as numerous as deaths among females. By far the largest number of deaths in the immaturity group however was certified as due to premature birth, 444, or more than 50 per cent. of the total of this group.

The diseases of respiration were less fatal during 1944, the rates for males being 16 and for females 12, compared with the corresponding figures of 17 and 15 for the preceding year. These are the lowest rates on record.

The principal cause of the high infant mortality was the increase in the death rate from diseases of the digestive system. The death rate for males was 36 and for females 26, compared with the respective figures of 19 and 11 for the preceding year. These are the highest rates ever recorded.

This great increase was caused by the prevalence of gastro-enteritis which was widespread throughout the city during the second half of the year, especially from the middle of August onwards. The actual number of deaths from diarrhoeal diseases for both males and females was 670, which is equivalent to 30 per cent. of the total infant mortality for the city. Had the diarrhoeal death rate remained at the same figure for the preceding year, namely 15, the infant mortality rate would have been in the region of 80.

The prevalence of gastro-enteritis was made the subject of a special report, which is here incorporated.

#### GASTRO-ENTERITIS IN INFANTS.

An outbreak of gastro-enteritis among infants began in the middle of August and ended in the middle of October. This is the time of the year when dysentery and other diarrhoeal affections normally increase, while for some years past both have shown a decided tendency to become more prevalent throughout the country. But this high incidence in young infants occurring as an outbreak throughout the city was a unique experience. The following table shows the number of infant deaths due to gastro-enteritis from the beginning of August to the middle of October :—

	August.				September.					October.		Total
Week ending	5	12	19	26	2	9	16	23	30	7	14	
No. of deaths	7	14	42	38	50	28	31	29	17	23	17	296

Of these 296 deaths, 242 were considered to be directly due to uncomplicated acute gastro-enteritis, while 54 had serious complications such as acute broncho-pneumonia. The largest number of deaths occurred during the week ending 2nd September, when 50 were reported.

During the outbreak, 420 infants with this affection in a severe form were treated in the Corporation general and fever hospitals. The case mortality rate among these cases in hospital was 25 per cent.

*Distribution.*—The extent of the infection in the city was considerable and the distribution widespread, but the actual incidence cannot be

accurately measured. Further, the infection was not a neo-natal one but affected infants of older ages ; another feature was that children over one year of age were relatively unaffected.

The details which follow are based upon an investigation of the cases admitted to hospital for treatment along with those that died, namely, 522 cases.

*Age Distribution.*—The following table shows that the great majority of the severe cases occurred among infants over three months.

Age in Months ...	...	0-2	3-5	6+	Total
No. of Cases ...	...	133	182	207	522

*Size of House.*—The following table shows that the great majority of cases occurred in the smaller houses :—

Apartments ...	1	2	3	4+	Total
No. of Cases ...	179	230	78	35	522

Among the 522 cases, 321 occurred in houses where there was no internal water-closet.

*Feeding.*—The infection occurred most commonly among artificially fed infants, only 22 being reported as breast fed ; in 347 cases the method of feeding was by cows' milk, while in 153 the infant was fed on dried milk.

An effort was made to assess the capacity of the mother as regards the care of her infant. The categories in which the health visitors classified the standard of maternal care were—good, 187 ; fair, 144 ; poor, 191.

*General.*—(1) Gastro-enteritis in infants may be said to be endemic throughout the country. It sometimes occurs quite suddenly in newly born infants in maternity hospitals, but this is the first time that a general city outbreak has occurred. The cases were very widespread but mainly confined to the poorer wards of the city, as the appended table shows. The natural history of this affection is unknown, and no known bacterial cause was discovered during this outbreak.

(2) Opportunity was taken to study this outbreak from all angles, including field observations in the affected houses ; clinical study of cases in the hospitals ; and bacteriological investigations carried out in co-operation with the City Bacteriologist. It was found that no single variety or type of organism was common to all the cases or indeed present in more than half of the specimens examined. . Most



of the severe cases were complicated by the invasion of a variety of respiratory bacteria which aggravate the infection and play a part determining its severity.

(3) To deal with the cases requiring hospital treatment (420 cases), increased accommodation in the Corporation hospitals had to be provided. In addition, the Royal Hospital for Sick Children admitted a large number of infants to its wards.

(4) The child welfare health visiting staff was augmented by sixteen nurses withdrawn from other duties. They were directed to home visitation in the areas where the incidence of the infection was highest, special guidance being given to mothers with regard to the feeding of infants and the preparation of the feeds.

(5) With the co-operation of the Press, the attention of the public was directed to the presence of the outbreak and to the importance of special care in infant feeding.

(6) The investigation showed that no single specific factor could be distinguished as causative, but two facts did emerge, namely, that the incidence was highest where the housing conditions are poorest, and that the great majority of cases occurred in babies who were artificially fed. Of the 522 cases investigated only 22 were breast fed. An artificially fed infant living in a congested area of a densely populated city runs a grave risk of infection. The present-day attitude towards breast feeding and the common practice of early weaning are problems of paramount importance in the prevention of infant mortality, and in particular in the prevention of such an outbreak of acute gastro-enteritis.

#### WARD DISTRIBUTION OF THE 522 CASES INVESTIGATED.

Ward.	Cases.	Ward.	Cases.	Ward.	Cases.
1 Shettleston ...	16	14 Anderston ...	18	27 Gorbals ...	43
2 Parkhead ...	26	15 Sandyford ...	7	28 Kingston ...	18
3 Dalmarnock ...	27	16 Park ...	1	29 Kinning Park...	26
4 Calton ...	17	17 Cowcaddens ...	27	30 Govan ...	44
5 Mile-end ...	7	18 Woodside ...	22	31 Fairfield ...	11
6 Whitevale ...	11	19 Ruchill ...	20	32 Pollokshields ...	8
7 Dennistoun ...	5	20 North Kelvin	10	33 Camphill ...	—
8 Provan ...	19	21 Maryhill ...	1	34 Pollokshaws ...	2
9 Cowlairs ...	7	22 Kelvinside ...	—	35 Govanhill ...	3
10 Springburn ...	11	23 Partick East ...	9	36 Langside ...	1
11 Townhead ...	29	24 Partick West ...	8	37 Cathcart ...	—
12 Exchagne ...	14	25 Whiteinch ...	8	38 Yoker and	
13 Blythswood ...	12	26 Hutchesontown	29	Knightswood	5
Total=522.					



Mortality from other infectious diseases was very low, the rates for both males and females being 2, the lowest on record. The death rate for diseases of the nervous system at 5 for males and 4 for females remains at the same level for recent years. Tuberculosis disease was at the minimum rate of 1 for each sex.

*Infant Mortality in Wards.*—The ward distribution of infant mortality is given in Table VII in the Appendix. Because of the heavy prevalence of gastro-enteritis, fluctuations in ward rates were greater than usual. The highest rate, 154, occurred in Exchange against 115 for the preceding year. The respective rates for other wards with high mortalities compared with the corresponding figures for 1943, given in brackets, were as follows:—Townhead, 141 (94); Calton, 127 (126); Mile-End, 124 (92); and Whitevale, 122 (70). There were four groups of contiguous wards with infant mortality over 100—

Dalmarnock	119	Townhead	141	Cowcaddens	118	Hutchesont'n	110
Calton ...	127	Exchange	154	Woodside	109	Gorbals ...	118
Mile-end ...	124	Blythswood	120	Ruchill ...	104	Kingston ...	102
Whitevale	122					Kinning Park	111
						Govan ...	110

In the good residential and artisan wards the rates remain low, such as Cathcart with 41, Kelvinside 51, and Camphill 54.

*Illegitimate Mortality.*—There were 223 infant deaths among the 1,760 illegitimate births, which is equivalent to an infant mortality rate of 127.

*Notification of Still Births.*—The number of still births registered in the city during the year was 901 compared with 949 for the preceding year. There were 129 outward and 60 inward transfer still births, so that the net total for the city was 832 against 847. This is equal to 3·7 per cent. of the live births compared with 3·6 in 1943.

From information obtained regarding still births reported under the Notification of Births Acts, it is found that 2·5 per cent. of all births in the practice of doctors were still births, and of those medically attended in institutions 4·2 per cent. Together the rate indicated is 3·8. Among non-medically attended births the corresponding rate was 2·3.

#### CHILD WELFARE SCHEME.

In order to meet the convenience of mothers residing in new housing schemes to the south of the city, premises in Penilee district were adapted for the purpose of a Child Welfare Centre, as from 4th

September. There are now 17 centres throughout the city and the number of weekly sessions held in these totalled 103 against 95 in 1943. Of the additional sessions six were in Penilee Clinic, two ante-natal and four child welfare, while two additional sessions were given in other clinics, one in Denmark Street and the other in Gorbals. The total of 103 now includes 37 ante-natal clinics, 61 child welfare and 5 ultra-violet ray treatment. In addition to these, both ante-natal and child welfare clinics continue to be conducted at Elderpark Child Welfare Centre and the Royal Maternity Hospital. The time table of clinics is now as follows :—

#### LIST OF MATERNITY AND CHILD WELFARE CLINICS.

	9 a.m.	1.30 p.m.
MONDAY,	15 Glenbarr Street, Provan. 106 Orr Street. 26 Florence Street (— 1 year). 2 Summertown Road, Govan (Ante-natal). 20 Arklet Road, Elder Park (Ante-natal). 33 Richard Street (Ante-natal). Sandy Road, Partick (— 1 year). 26 Florence Street (Ante-natal) 194 Fernbank Street (Ante-natal) 150 Wellshot Road, Shettleston (Ante-natal).	15 Glenbarr Street, Provan (Ante-natal). Sandy Road, Partick (Ante-natal). 60 Avenuepark Street. 106 Orr Street. 26 Florence Street (— 1 year). 2 Summertown Road, Govan (Ultra-Violet Ray). 614 Dobbie's Loan (Ante-natal). 194 Fernbank Street, Springburn. 15 Glenbarr Street (Ultra-Violet Ray). 101 Denmark Street. 150 Wellshot Road, Shettleston. Penilee (Ante-natal).
TUESDAY,	33 Richard Street (1-5 years). 194 Fernbank Street, Springburn. 60 Avenuepark Street (Ante-natal). 150 Wellshot Road, Shettleston. 15 Glenbarr Street, Provan. 2 Summertown Road, Govan. 106 Orr Street (Ante-natal). 26 Florence Street 614 Dobbie's Loan. 132 Weir Street. 20 Arklet Road, Elder Park (Ante-natal).	33 Richard Street (Ante-natal). Sandy Road, Partick (— 1 year). 614 Dobbie's Loan (Ante-natal). 106 Orr Street. 150 Wellshot Road, Shettleston. 26 Florence Street (Ante-natal). 20 Arklet Road, Elder Park (Ante-natal). 26 Florence Street. 101 Denmark Street. Penilee.
WEDNESDAY,	33 Richard Street (— 1 year). 60 Avenuepark Street. 614 Dobbie's Loan. 18 Plean Street, Blawarthill (1-5 years). 106 Orr Street (Ante-natal). 33 Harriet Street. 2 Summertown Road, Govan (Ultra-Violet Ray). 150 Wellshot Road, Shettleston. 15 Glenbarr Street, Provan. Penilee (Ante-natal).	18 Plean Street, Blawarthill (Ante-natal). 194 Fernbank Street, Springburn (Ante-natal). 106 Orr Street. 26 Florence Street (Ante-natal). 2 Summertown Road, Govan. 150 Wellshot Road, Shettleston. 33 Harriet Street.

9 a.m.

1.30 p.m.

THURSDAY, 614 Dobbie's Loan.  
 106 Orr Street (Ante-natal).  
 15 Glenbarr Street (Ante-natal).  
 26 Florence Street (1-5 years).  
 132 Weir Street.  
 33 Richard Street (-1 year).  
 2 Summertown Road, Govan  
 (Ante-natal).  
 194 Fernbank Street, Springburn.  
 112 Ingram Street.  
 Sandy Road, Partick (Ante-natal).

Sandy Road, Partick (1-5 years).  
 60 Avenuepark Street (Ante-natal).  
 614 Dobbie's Loan.  
 106 Orr Street.  
 150 Wellshot Road, Shettleston (Ante-natal).  
 26 Florence Street (-1 year).  
 132 Weir Street.  
 2 Summertown Road, Govan (Ante-natal).  
 26 Florence Street (Ante-natal).  
 15 Glenbarr Street (Ultra-Violet Ray).

FRIDAY, 18 Plean Street, Blawarthill  
 (-1 year).  
 101 Denmark Street (Ante-natal).  
 614 Dobbie's Loan (Ante-natal).  
 60 Avenuepark Street.  
 106 Orr Street (Ante-natal).  
 150 Wellshot Road, Shettleston.  
 (Ante-natal).  
 26 Florence Street (1-5 years).  
 2 Summertown Road, Govan.  
 15 Glenbarr Street, Provan.  
 33 Richard Street.  
 Penilee.

614 Dobbie's Loan.  
 106 Orr Street.  
 101 Denmark Street  
 2 Summertown Road, Govan (Ultra-Violet Ray).  
 20 Arklet Road, Elder Park.  
 15 Glenbarr Street, Provan.  
 33 Harriet Street (Ante-natal).  
 18 Plean Street, Blawarthill (Ante-natal).  
 150 Wellshot Road, Shettleston  
 26 Florence Street (Ante-natal).  
 Penilee.

♦ Elderpark Infant Consultations—Monday, Wednesday and Thursday at 1.30 p.m.

Maternity Hospital Ante-Natal Clinics—Daily, Monday to Friday, at 1.30 p.m.,  
 Saturday, 9.30 a.m. — 1 Year Clinics, Monday, Wednesday and Friday, 9 a.m.

Vaccination is also done at 20 Cochrane Street on Tuesdays at 12 noon.

The number of consultations held during 1944 was 3,009 compared with 2,964 for the preceding year, and the total number of attendances at these consultations was 156,062, compared with 140,229 during 1943. The number of infants under one year attending for the first time was 10,271, compared with 9,930 for the preceding year, while the corresponding figures for subsequent attendances were 119,872 and 104,601. The number of children over one year attending for the first time was 1,267, compared with 1,212, and the subsequent attendances numbered 24,652, against 24,486.

The following table gives the attendance at each consultation centre during 1944, with the corresponding total figures for the previous year:—

### ATTENDANCES AT INFANT CONSULTATIONS, 1944.

	No. of Con- sulta- tions held.	Children—1 year.		Children+1 year.		Total No. of Attendances.		1943—Total No. of Attendances.	
		Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Corbals...	307	1,424	15,500	196	2,499	1,620	17,999	1,570	17,187
Howcaddens ...	258	547	6,387	82	1,899	629	8,286	600	7,388
Older Park ...	200	775	8,935	48	2,247	823	11,182	912	10,608
Howan ...	252	646	6,320	114	1,704	760	8,024	831	7,556
Howan ...	156	526	5,823	60	1,810	586	7,633	538	6,338
Mar Street ...	298	1,179	13,491	153	2,067	1,332	15,558	1,386	14,519
Marshall ...	150	549	6,194	66	861	615	7,055	589	6,550
Marwick ...	150	570	6,355	76	1,390	646	7,745	577	6,915
Marshall Street	208	607	7,295	34	1,203	641	8,498	590	7,265
Marshallston ...	305	1,017	12,996	100	3,041	1,117	16,037	1,050	14,493
Mar Street ...	156	343	4,932	53	1,432	396	6,364	428	6,094
Marshall Street...	52	97	1,120	26	201	123	1,321	129	1,397
Marshallburn ...	150	497	6,301	36	1,393	533	7,694	510	6,574
Marshallhill ...	104	597	5,209	69	1,294	666	6,503	622	5,582
Marshallshaws ...	104	366	4,929	70	757	436	5,686	362	4,570
Marshall Street	109	414	7,072	43	603	457	7,675	448	6,051
Marshall ...	50	117	1,013	41	251	158	1,264	—	—
	3,009	10,271	119,872	1,267	24,652	11,538	144,524	11,142	129,087
		130,143		25,919		156,062		140,229	

*Supply of Milk to Mothers and Children.*—Since August, 1940, supplies of liquid milk for expectant and nursing mothers and children under five years of age have been distributed under national arrangements, and the only function falling upon the department in connection with that scheme is to distribute application forms through the Child Welfare Centres. Vitaminised dried milk continues to be supplied from the Centres.

The total number of packets supplied free was 1,878, representing a cost of £174 5s. 4d.

Where family income was above the scale of necessity, 165,385 packets were supplied at cost price to mothers and children.

It is gratifying to note that there has been an increase in the amount of dried milk taken up at the various Centres. Every opportunity is taken to teach the mothers the advantages of dried milk over liquid



milk in the feeding of young infants. Though progress is apparent, custom dies hard in certain districts, and much teaching and persuasion by medical officers and health visitors in these areas is still necessary.

Dietary supplements as shown below were also issued from the Centres :—

	Lbs.	Cost.
Cod Liver Oil ... ..	2,447	£395
Cod Liver Oil Emulsion ...	4,824	321
Chemical Food ... ..	3,404	354
Sundry Foods ... ..	139	12
	<u>10,814.</u>	<u>£1 082</u>

The booklet "Health of Mother and Child," in its enlarged form, continued in demand at the Centres, and 7,356 copies were sold during the year. Large numbers were supplied to other Local Authorities in England and Scotland by special arrangement.

*Ante-Natal Consultations.*—Sessions at ante-natal clinics numbered 1,791, compared with 1,768 for the preceding year. The total attendances were 70,541, compared with 71,768 in 1943: primary attendances were 10,455, or 802 less than in the previous year (1943): subsequent attendances numbered 60,086, a decrease of 425. Consultations and attendances at each of the Centres are shown in the following table :—

#### ATTENDANCES AT ANTE-NATAL CLINICS, 1944.

	No. Clinical Sessions.	Number of Attendances.		
		Primary.	Subsequent.	Total.
Partick ... ..	98	559	3,273	3,832
Cowcaddens ... ..	150	460	2,665	3,125
Maryhill ... ..	104	589	3,172	3,761
Springburn ... ..	98	425	2,555	2,980
Bridgeton ... ..	208	1,281	7,761	9,042
Shettleston ... ..	150	977	6,011	6,988
Gorbals ... ..	252	1,677	10,053	11,730
Govan ... ..	150	1,165	5,895	7,060
Elderpark ... ..	150	918	5,878	6,796
Anderston ... ..	98	629	3,041	3,670
Blawarthill ... ..	102	566	3,299	3,865
Provan ... ..	98	613	3,074	3,687
Pollokshaws ... ..	50	258	1,473	1,731
Denmark Street ... ..	52	271	1,501	1,772
Penilee ... ..	31	67	435	502
	<u>1,791</u>	<u>10,455</u>	<u>60,086</u>	<u>70,541</u>

In addition to the above, ante-natal consultations were carried on at the four municipal hospitals out-patients departments, namely,



Stobhill Hospital, Southern General Hospital, Eastern District Hospital, and Western District Hospital. The new cases registered at these consultations during 1944 numbered 2,059, and they made 9,483 attendances. The corresponding figures were 1,746 and 8,548 in 1943 respectively.

Among the 10,382 patients whose pregnancy terminated in 1944 (excluding abortions) 43 deaths occurred, giving a death-rate of 4.1 per thousand births, compared with 5.0 for the year 1943. There were 6 deaths from puerperal septic conditions. Deaths among the other 37 patients were as follows :—

Ectopic Gestation	...	...	...	...	...	...	—
Haemorrhage of Pregnancy	...	...	...	...	...	...	1
Toxaemias of Pregnancy	...	...	...	...	...	...	4
Other Diseases and Accidents of Pregnancy	...	...	...	...	...	...	—
Haemorrhage of Childbirth and the Puerperium	...	...	...	...	...	...	5
Other Accidents of Childbirth	...	...	...	...	...	...	4
Other or Unspecified Conditions of Childbirth and the Puerperal State	...	...	...	...	...	...	2
Tuberculosis of Respiratory System	...	...	...	...	...	...	5
Tubercular Meningitis	...	...	...	...	...	...	1
Heart Disease	...	...	...	...	...	...	6
Pneumonia	...	...	...	...	...	...	2
Other Respiratory Diseases	...	...	...	...	...	...	2
Digestive Diseases	...	...	...	...	...	...	1
Violent Causes	...	...	...	...	...	...	1
All other Causes	...	...	...	...	...	...	3

Excluding the 21 deaths which had little association with the puerperal state, the maternal death-rate of mothers attending the clinics would be 2.1, compared with 4.0 for the city as a whole.

The total number of cases attending the ante-natal dispensary of the Maternity Hospital for the first time was 3,354, compared with 3,572 in 1943, the total attendance was 18,108, against 19,357. Of the 2,420 cases treated to a termination in delivery, 520 were treated in their own homes. There were 1,250 admissions to the ante-natal wards. At the infant consultations held at the hospital there were 3,141 attendances as compared with 3,176 in 1943.

*Dental Treatment of Expectant Mothers.*—The scheme approved by the Corporation in 1935 to provide dental treatment for necessitous and partly necessitous mothers in need of treatment was continued. Applications for treatment numbered 968, a decrease of 143 from 1943. Of these, 844—or 88.3 per cent.—were wholly or partly necessitous. The charges made in partly necessitous cases are determined by a scale of necessity approved by the Corporation. Attendances totalled 4,276,

of which 758 were first attendances. Extractions made numbered 6,997, and 909 dentures were completed. Scaling, filling, dressing, and other work necessitated over 1,440 attendances of patients.

*Maternal Mortality.*—The following statement showing the maternal mortality deaths and rates is from figures supplied by the Registrar-General :—

STATEMENT SHOWING MATERNAL DEATHS AND RATES PER 1,000 BIRTHS  
IN GLASGOW AND SCOTLAND IN THE YEARS 1940-1944.

		Deaths.					Rate per 1,000 Births.				
		1940.	1941.	1942.	1943.	1944.	1940.	1941.	1942.	1943.	1944.
Accidents of Pregnancy	...	5	6	2	5	6	0.23	0.28	0.09	0.22	0.19
Puerperal Haemorrhage ...	...	24	22	16	34	13	1.10	1.03	0.74	1.47	0.6
Puerperal Septicaemia, including Post-abortive Sepsis ... ..	...	33	52	56	43	38	1.51	2.44	2.57	1.86	1.1
Toxaemia of Pregnancy, Albuminuria Convulsions	...	27	21	21	19	20	1.23	0.98	0.96	0.82	0.9
Other Puerperal Diseases	...	19	20	16	19	15	0.86	0.94	0.74	0.82	0.6
Totals— Glasgow ...	...	108	121	111	120	92	4.93	5.67	5.10	5.19	3.99
Scotland ...	...	379	439	380	364	294	4.20	4.69	4.1	3.7	3.99

During the year 92 deaths occurred from maternal causes, equivalent to a rate of 3.99 per 1,000 live and still births, which compares with a rate of 5.19 for the previous year. The rates prior to 1940 are based on the live births only.

### ULTRA-VIOLET RAY CLINICS.

No alteration has taken place in the arrangements for light treatment of children suffering from rickets, malnutrition, etc.

The installation and the results of treatment have been fully dealt with in previous reports, so that only the records of numbers treated are here given in respect of 1944 :—

### RECORD OF ATTENDANCES AND CONSULTATIONS DURING 1944.

		Number of Clinics held.	Children —1 year. Number of Attendances.		Children +1 year. Number of Attendances.		Mothers. Number of Attendances.		Total Number of Attendances.	
			Prim.	Sub.	Prim.	Sub.	Prim.	Sub.	Prim.	Sub.
Provan	...	98	15	173	256	5,249	15	83	286	5,505
Govan	...	144	73	657	370	8,811	23	219	466	9,687
		242	88	830	626	14,060	38	302	752	15,192
			918		14,686		340		15,944	

## INFANT VISITATION.

Under the scheme of infant visitation every birth is visited if the notification does not state that a medical practitioner has been in attendance, and the following table shows the record of those visited, together with certain information obtained :—

	1942.	1943.	1944.
Inquiry Cards returned ... ..	16,116	17,263	17,929
Full information obtained ... ..	15,760	16,897	17,539
Doctor found in attendance	2	1	1
Others ... ..	354	365	389
Inquiry Cards issued ... ..	16,229	17,333	17,942

## VISITATION BY NURSES.

Altogether the health visitors made 233,586 home visits during the year, compared with 206,044 during the preceding year. Of these totals the respective numbers for infants under one year of age were 100,317 and 79,504. First visits numbered 16,051. In addition 66,809 visits were made to houses in respect of toddlers, while 14,333 other toddlers were seen during the course of routine visitation of infants. Other visits were made for special enquiries, etc., as shown in the following table :—

### VISITS MADE BY NURSES.

	1943.	1944.
Infants under one year—Primary visits ...	15,738	16,051
Infants under one year—Subsequent visits	63,766	84,266
	79,504	100,317
Children one to five years ... ..	62,789	66,809
Children seen while visiting infants ...	15,467	14,333
Ophthalmia Neonatorum ... ..	5,529	4,430
Puerperal Fever ... ..	10	3
Maternal Deaths Enquiries ... ..	4	2
Infant Deaths ... ..	128	104
Ante-natal Visits ... ..	6,385	6,196
Venereal Diseases ... ..	291	270
Light Treatment ... ..	533	617
Pneumonia ... ..	18	97
Other Visits ... ..	1,263	1,635
Houses Shut ... ..	34,123	38,773
	190,577	219,253

Infants or Children brought to Central Clinic  
for Treatment, etc.—

Child Welfare ... ..	425	311
Venereal Diseases ... ..	51	63
Others ... ..	257	393
	733	767

In addition to home visitation, the nurses attend the Child Welfare and other consultations in their own districts. They thus have an opportunity of reporting to the doctor any illness or condition requiring medical treatment and following up cases afterwards to see that the treatment recommended is carried out,

*Day Nurseries.* The attendances at the three Day Nurseries, viz. Cowcaddens, Kingston, and Bridgeton, were as follows :

Nursery.	Number of Days open.	Total Attendances during the year	Average.	Maximum number in one day.	Accommo- dation for
Bridgeton ...	249	9,248	37	42	40
Kingston ...	253	8,095	32	40	40
Cowcaddens ...	251	9,194	36	53	45

#### WAR-TIME DAY NURSERIES.

	Opening Date.	Days Open.	Total Attend. for Year.	Average Daily Attend- ance.	Max. No. in one Day.	Accom- modation for
<b>Central—</b>						
Atholl House ...	18/3/42	308	9,531	31	48	45
Bowmont Terrace	2/8/43	304	7,871	26	46	60
Castlebank House	24/4/44	217	5,575	26	49	50
Fortrose Street ...	4/1/44	303	5,704	19	31	30
Great Western Rd.	21/10/42	321	11,345	37	55	60
Hatfield Drive ...	9/10/44	62	729	11	19	30
4 Hughenden Ter.	21/6/44	188	3,268	17	28	36
6 Hughenden Ter.	26/9/44	93	913	9	21	36
2 Prince Albert Rd.	11/12/44	17	126	7	10	50
Renfrew Street ...	30/11/42	300	8,788	33	43	40
Sandyford Place ...	3/3/43	308	11,763	38	54	60
Scotstoun House ...	2/2/44	284	7,702	40	45	50
University Gardens	30/10/44	52	987	19	32	50
Westland Drive ...	18/3/42	329	9,359	28	51	60
9 Winton Drive ...	11/9/43	302	7,036	23	40	50
21 Winton Drive...	19/4/44	172	3,053	18	35	34
<b>North—</b>						
Ann Street ...	2/3/42	309	7,407	24	45	50
Belhaven ...	20/7/42	301	9,357	26	49	50
Cowcaddens ...	5/5/42	252	9,194	36	53	45
Eastpark ...	10/8/42	313	12,805	42	56	70
Hamiltonhill ...	18/10/43	301	9,077	31	42	45
Kelvin Drive ...	17/5/43	300	8,220	31	48	50
Lansdowne Crescent	28/6/43	303	7,942	22	40	40
<b>East—</b>						
Crail Street ...	10/8/42	304	9,934	33	50	50
Onslow Drive ...	9/8/43	304	9,877	33	54	60
Quarrybrae ...	11/9/43	303	10,344	35	53	50
Westercraigs ...	5/3/42	302	7,883	26	39	40
<b>South-east—</b>						
Bedford Street ...	22/6/42	302	9,144	37	50	40
Holmlea Road ...	17/5/44	254	6,431	28	48	50
Pollokshaws ...	1/2/43	302	8,737	32	40	40
Sinclair Drive ...	17/6/42	301	9,262	31	45	45
<b>South-west—</b>						
Clutha Street ...	20/3/44	246	6,695	27	44	56
Elderpark ...	20/10/41	297	8,351	28	44	45
Newark Drive ...	15/8/43	302	8,281	27	43	40
Nithsdale Road ...	12/7/43	303	7,959	31	37	45
Woodrow Circus ...	13/9/44	89	1,521	17	28	30
<b>Residential Nurseries—</b>						
Knapps, Kilmacolm	17/3/43	351	7,132	20	30	30
Sandspoint, Kilma- colm ...	26/5/43	366	8,462	23	30	30



*Domestic Helps.*—During 1914 19 individual helps attended 88 cases for a total of 974½ days. This is an average of 11½ days per case. The amount paid in fees was £190 16s. 10d. The maximum fee for the services of a Domestic Help is 9s. 6d., so that the balance falling to be met by the Corporation was £272 0s. 11d.

*Maternity Bundles.*—These bundles or part bundles to the number of 1,068 were supplied, in respect of which part payment received amounted to £40 10s. 6d. An increase in the cost of the bundles was made in February which affected the number of bundles dealt with under the scheme.

### MIDWIVES (SCOTLAND) ACTS.

During 1944 there was an increase of 12 in the number of midwives who notified their intention to practise, so that there are now 144 on the register. This increase is due to an increase in the number of Municipal Midwives and in County Midwives attending Glasgow cases at the boundary. The number of those entitled to registration by examination is 134, while the number of those registered as having been in practice in 1914 is now 7. There are also 3 with other recognised qualifications. The number who notified their intention to practise for the first time was 14.

During the year there were 1,523 occasions on which medical help was called by midwives, which represents 30·2 per cent. of the total births occurring in the practice of midwives. Details of the nature of emergency are not given this year, but the following indicates the period during which medical assistance was called :—

	1941.	1942.	1943.	1944.
In all cases in which a woman during pregnancy, labour, or lying-in appears to be dying or is dead ... ..	—	—	—	—
PREGNANCY.—In cases of a pregnant woman where there is any abnormality or complication ... ..	34	36	46	71
LABOUR.—In the case of a woman in labour at or near term, where there is any abnormality or complication ...	1,006	948	1,070	1,088
LYING-IN.—In the case of a lying-in woman, when there is any abnormality or complication ... ..	123	140	169	158
THE CHILD.—In the child, when there is any abnormality or complication ...	207	185	197	206
Cannot be classified ... ..	4	3	9	—
Total ... ..	<u>1,374</u>	<u>1,312</u>	<u>1,491</u>	<u>1,523</u>



Fees to doctors attending emergency cases amounted to £895 5s., and during the year £448 10s. was recovered and £2 1s. withdrawn from medical practitioners' accounts.

*Municipal Midwives.*—The service carried out by these midwives continues to increase in popularity, and the number of the midwives is 40. These nurses paid 10,333 visits, 36,393 visits during the puerperium, and 6,529 visits to the babies until the age of one month. This continuity of supervision for the first four weeks has many advantages, particularly with regard to the establishment of breast-feeding. The Municipal Midwives are having a striking success in this connection. Of the 2,407 confinements attended, 49 terminated in a still-birth.

#### NURSING HOMES REGISTRATION (SCOTLAND) ACT, 1938.

Four applications for registration of nursing homes were made during the year and all were granted. Two of the applications were for new certificates consequent upon changes of management, two consequent upon changes of address.

Four certificates were withdrawn. Three were in respect of the homes mentioned above in which there had been a change of management or change of address.

The administration of this Act during the war period has given rise to a number of difficulties. The standards with regard to painting and decorative work have had to be relaxed, and no alterations or improvements except of a minor nature have been possible. The staffing of the Homes both on the nursing and domestic side has been difficult, and the pre-war ratio of nurses to patients, especially trained nurses, has not always been maintained. In general, however, despite these very real difficulties, the standard of the Homes is good.

No fresh applications for exemption were received.

The premises occupied as a nursing home which had been taken over in 1943 for other purposes are still being utilised for such. The home, however, has not been removed from the register as the likelihood is that it will once more be occupied as a nursing home at some future date.

The following table shows the position of nursing homes at 31st December, 1944 :—

	Registered.	Exempted.
Maternity Hospitals ... ..	—	2
General Infirmeries and Hospitals ... ..	1	9
Nursing Homes ... ..	41	4
	<u>42</u>	<u>15</u>

### OPHTHALMIA NEONATORUM.

During 1944, 532 cases of ophthalmia neonatorum were notified, compared with 622 in 1943.

#### CASES OF OPHTHALMIA NEONATORUM ACCORDING TO NATURE OF ATTENDANCE AT BIRTH.

Doctors ... ..	17
Institutions ... ..	109
Institution Nurses ... ..	289
Midwives ... ..	117

The onset in relation to age was as follows :—

— 12 hours ... ..	23
— 4 days ... ..	166
— 8 days ... ..	162
+ 8 days ... ..	164

In 17 cases no discharge was found when the health visitor called so that the condition had been very transitory. Smears were taken in every case and of the 532 cases, 21 were positive for gonococcus, compared with 30 in 1943. Fifty-one of the cases were admitted to Baird Street Hospital for treatment and 40 cases attended the hospital for outdoor treatment, making 181 attendances. The remainder were treated at home or at a child welfare centre by health visitors, who made 4,430 visits in all. The total number of admissions to Baird Street was 61 which included 10 cases admitted from authorities outwith the city. In two of these 10 cases, the causative organism was found to be the gonococcus.

Following the usual line of treatment carried out during the past few years, the cases were put immediately on sulphathiazol and daily smears taken. In 16 cases, only one positive smear was obtained. In all but two of the others there was a second positive. These two cases both gave a first positive smear, followed by three negative

results, and followed again by an acute exacerbation of the ophthalmia and a positive smear. The condition cleared up quickly and did not recur.

In no case was there any impairment of vision. The Wassermann test for syphilis was carried out in all hospital cases and in no instance was it positive.

### PUERPERAL FEVER AND PUERPERAL PYREXIA.

During the year there were registered 337 cases of puerperal fever and 206 cases of puerperal pyrexia, compared with 417 and 276 respectively for the preceding year. All but three cases of puerperal fever and 20 pyrexias were removed to hospitals or other institutions.

Deaths associated with cases of puerperal fever notified during the year numbered 43, which is equal to a fatality rate of 12·8. Among the cases registered as puerperal pyrexia there were 11 deaths, which under the International Classification of Deaths would be tabulated as follows :—Pulmonary Tuberculosis, 3; Heart Disease, 1; Pneumonia, 3; Other Maternal Causes, 4.

The combined mortality rate on the 43 deaths from puerperal conditions is therefore 7·9 per cent., compared with 7·5 per cent. for 1943.

## SECTION III.

## INFECTIOUS AND OTHER DISEASES.

The total number of cases of infectious disease registered was 36,556, with an addition of 1,939 cases represented by those removed to hospital which were ultimately diagnosed as non-infectious. For the previous year the corresponding figures were 42,169 and 1,922. This considerable reduction is accounted for by the lower prevalence of most of the infections with the exception of scarlet fever, malaria, and chickenpox. The largest reductions took place in diphtheria, erysipelas, the various forms of pneumonia, measles, and whooping cough. Table X in the Appendix gives the details, showing the numbers removed to Fever Hospitals, Corporation General Hospitals, and other institutions. The seasonal prevalence is shown in Appendix Table IX.

*Vaccination.*—The following table gives information as to the administration of the Vaccination Acts up to the end of 1943. There was a slight recession in the percentage of children successfully vaccinated, 56·7 against 60·6 for 1942, when the necessity for inoculation was brought prominently before the public because of the outbreak of smallpox following the landing at the port of a case from North Africa. The percentage of infants thus protected is considerably in excess of the figures for pre-war years. The number found to be insusceptible to vaccination was apparently 3·5 per cent. of the total, or seven times the percentage obtaining in 1906 before the Conscientious Objection Clause came into operation.

TABLE SHOWING RESULTS OF PRIMARY VACCINATION OF CHILDREN BORN DURING SEVERAL YEARS.

(From the Detailed Annual Reports of the Registrar-General.)

Year.	Successfully vaccinated. Per cent.	Insusceptible of vaccine disease. Per cent.	Died before vaccination. Per cent.	Conscientious objection to vaccination. Per cent.	Vaccination postponed. Per cent.	Unaccounted for. Per cent.
1906	82·9	0·5	10·6	0·2	0·8	5·0
*	*	*	*	*	*	*
1914	51·7	0·9	12·1	25·1	1·8	8·4
*	*	*	*	*	*	*
1939	39·6	2·3	7·4	41·6	1·6	7·5
1940	43·2	1·8	8·0	36·5	1·6	8·9
1941	50·2	1·9	9·5	30·5	0·4	7·5
1942	60·8	3·3	7·6	18·7	1·7	7·9
1943	56·7	3·5	7·4	22·1	0·4	9·9

During 1944 the number of cases reported by Registrars as not having lodged certificates for conscientious objection to vaccination under the Act was 7,583, against 5,885 for the preceding year. Children vaccinated numbered 1,753, the number postponed was 2,305, and 58 were certified as not susceptible. Medical certificates on behalf of 2,469 children were forwarded to the Department of Health for registration as not fit subjects for vaccination. The number of children vaccinated at Child Welfare Centres was 33,801, compared with 2,971 during the previous year.

*Smallpox.*—No case of smallpox was recorded during the year.

*Typhoid.*—The total, 27 cases, was small. Eight cases (of whom seven were males) sickened at home, seven were institutional cases, and twelve were imported by sea. One ship brought seven cases. Only one death from typhoid occurred during the year.

*Paratyphoid.*—There were only four cases, with no deaths. They consisted of a man in the Northern Division and three women in the Eastern Division. Although they all sickened during the summer, the cases seem unrelated.

*Dysentery.*—As in many other parts of the country these infections were commoner than ever previously recorded. There were 1,259 cases, nearly thrice as many as in the preceding year, whose total was itself higher than in any previous year. Fever hospitals had to admit 830 dysentery patients. The seasonal incidence and origin of the cases were as follows :—

		1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Home Infections	...	161	147	378	363	1,049
Institutional	... ..	28	47	46	89	210

The second half of the year thus again provided many more cases than the first half. The unusually high proportion formed by *home cases* shows that there was a real increase in the number of foci of infection. There were, therefore, probably more undetected foci than ever before. The most heavily affected area was that of Hutchesontown and Gorbals with 193 cases (contrasting with the nearby area of Camphill and Langside with only three cases). Other heavily affected Wards were Anderston, Partick East, Whiteinch, Ruchill, and Cowcaddens. The Wards of Hutchesontown, Gorbals, and Cowcaddens also had an undue share of



serious infantile enteritis during the year ; but generally the two diseases, though attacking the same type of district, pursued independent courses. As regards *institutional cases* the general hospitals showed a low incidence considering the widespread prevalence. There were 62 cases from the three Welfare Department institutions in Glasgow for homeless children ; the disease is usually introduced by children admitted under urgent circumstances making complete information unobtainable.

The following table gives the age-incidence of the year's cases and the deaths as taken from the deaths records :—

		—1	—5	—15	—55	55+	Total.
Home Infections	...	55	427	245	264	58	1,049
Institutional	... ..	14	97	23	59	17	210
Deaths	... ..	5	—	—	1	2	8

The chief prevalence is seen, as usual, to be among children. This included a considerable number of infants. Day and residential nurseries in Glasgow reported 100 and 31 cases respectively, but only seven of these cases were infants under one year. The commonest ages for nursery infections were the same as for the home infections in general, namely, one year and two years. At the Public Health Department nurseries there was bacteriological examination of applicants with suspected histories, inmates with suspected signs and dysentery-convalescents seeking re-admission. Many Sonne-convalescents had to be excluded for several weeks. Rectal swabbing was found useful for saving time in investigation. The number of *deaths* certified as having been primarily due to dysentery was the same as in the preceding year. The fatality was thus very low although the disease continues to be more serious for infants and the aged. Several foci, comprising about 70 cases, of infection with the *Newcastle* type of organism, appeared during the last four months of the year ; these cases were also mild.

The only notable non-institutional outbreak involved a good-class restaurant and baker's shop. The staff numbered sixteen in the restaurant (12 cases), eleven in the kitchen (9 cases), and twelve in the shop (2 cases). The bakelhouse, with fifty employees, and the office escaped. The chef lived outside Glasgow and his family suffered from diarrhoea. He himself had symptoms towards the end of November and soon the assistant-chef sickened. These two prepared dried-milk ice-cream for the restaurant.

On the 9th December a doctor reported Sonne dysentery in a house from which two boys had eaten ice-cream at the restaurant a week previously with simultaneous illnesses next day. They had subsequently infected their mother. When the restaurant was visited on the day of this report, a majority of the staff-cases had sickened. Excepting the chef they had sickened during December, several on 5th December, and many with very mild or vague symptoms. The serving of ice-cream, cold sweets, and salads was stopped, instructions on personal hygiene were given, and bacteriological examination of all suspects was arranged.

Cases found among the public finally totalled only eight. Three have been described. The other five all ate at the restaurant, including two who had ice-cream only. These two sickened on 3rd December and 6th December within twenty-four and forty-eight hours respectively of partaking. Of the thirty-one cases in the outbreak, twenty-six had Sonne-positive stools, some for two months. The fewness of customer-cases seems to show the virtual harmlessness as a vehicle for the spread of infection of food that has been quickly distributed, including food eaten newly cooked.

Though not fatal, dysentery causes much misery, a demand for fever hospital beds, and interference with the work of other important institutions. For its prevention continued precautions in institutions and nurseries are necessary and, among the general public, the habits of hand-washing and of washing food eaten raw. The dangerousness to the public of diarrhoea in a food-handler should be widely appreciated. The wrapping or protection of food in distribution and sale should also be encouraged.

*Scarlet Fever.*—With the return of almost all the children evacuated in the early years of the war, the incidence of scarlet fever has been rising since 1940, when it touched the lowest case rate recorded, namely 1,706 per million of the population. The cases registered during 1944 numbered 3,416 against 3,115 for the preceding year. Of the total cases, 2,725 were removed to fever hospitals and 21 more were treated in other institutions. The percentage thus treated was just over 80, whereas in former years all but 2 or 3 per cent. were removed. The case mortality in 1944 was only 0.2 per cent., compared with 5 per cent. at the beginning of the present century. The death rate per million of the population in 1944 was 7 compared with 5 in the previous year, which was the lowest on record.

*Diphtheria.*—The present wave of diphtheria reached its height in 1940 when 5,190 cases were recorded. The number of cases registered last year was 2,377, compared with 2,919 in 1943 and 3,325 in 1942. The seasonal prevalence is given in Table IX in the Appendix ; although the maximum is usually in November the highest number recorded was 262 in January. Of the total cases all but 10 were treated in hospital.

With regard to the sex ratio, females are usually susceptible to a greater extent, especially at ages above 10 years. In 1944 there were 1,455 cases among females to 922 males. The following table gives the age distribution of cases of diphtheria compared with earlier years, when the child population formed a larger percentage of the total percentage. The number of children at younger ages now contracting the disease is less than in earlier years :—

			—1	—5	—15	—25	25+
1914	...	...	3.5	38.7	38.3	12.0	7.5
1924	...	...	3.3	35.6	43.1	10.6	7.4
1938	...	...	1.1	27.5	54.4	11.9	5.1
1940	...	...	0.8	28.1	51.1	14.3	5.7
1941	...	...	1.5	27.0	46.0	18.1	7.4
1942	...	...	1.4	26.0	46.9	17.1	8.6
1943	...	...	1.9	26.3	48.8	15.2	7.8
1944	...	...	1.3	26.5	50.2	13.2	8.8

*Diphtheria Immunisation.*—The facilities for diphtheria immunisation which are available are as follows :—

- (1) Thirteen diphtheria immunisation clinics held each Tuesday afternoon in different areas of the City. These deal with children of all ages.
- (2) Immunisation is carried out at all Child Welfare Centres.
- (3) School entrants are offered facilities at their first medical examination.
- (4) Children in Day Nurseries and Nursery Schools are immunised on admission.

Birthday letters are sent to the parents of children of one year who have not been immunised. These cases are picked up by the Health Visitors in the course of their visitation. A similar letter is sent to the parents of toddlers known to the Health Visitors to be still unprotected. During the year, 6,300 birthday letters and 4,012 toddlers letters have been sent.

A special effort has been made to deal with areas where there had been a poor response. In May thirty schools, in which less than fifty per cent. of the pupils had been immunised, were selected for intensified campaign. A letter was sent from the Head Teacher to the parents of all unprotected children asking consent to have the children immunised in school. Arrangements were then made for a Medical Officer to visit these schools. As a result of this 1,000 children were immunised.

In October, a new campaign was carried out on a large scale in all schools. A joint appeal was made to parents by the Director of Education and the Medical Officer of Health. A Medical Officer visited each school and arrangements were made for children under school age to be brought for inoculation at the same time. This effort resulted in 8,000 children being immunised.

Number of Children Immunised in 1943.			Number of Children Immunised in 1944.		
—5	+5	Total.	—5	+5	Total.
7,145	5,163	12,308	8,558	11,277	19,835

There were 62 deaths from diphtheria in Glasgow during 1944. All of these occurred among non-immunised children, 45 of whom were under five years of age.

As shown in Table VI in the Appendix, most deaths from diphtheria occur under ten years of age. That the youngest children are the most vulnerable is shown in the following table :—

Case Mortality per cent.						
	1944.			1938.		
	Males.	Females.	Total.	Males.	Females.	Both Sexes.
—1 year ...	6·6	11·7	9·4	6·2	26·6	16·1
—2 years ...	20·0	12·2	16·4	5·7	19·6	12·1
—5 years ...	6·2	3·9	5·0	5·5	8·6	7·0
—10 years	1·2	1·7	1·5	4·5	5·5	5·0
—15 years	—	1·2	0·7	0·5	2·9	1·9
15+ years	—	0·5	0·4	0·8	0·8	0·8
	<u>3·4</u>	<u>2·1</u>	<u>2·6</u>	<u>3·8</u>	<u>5·3</u>	<u>4·6</u>

*Erysipelas*.—The number of cases of erysipelas recorded during the year was 564, compared with 710 for the preceding year and is the lowest figure ever recorded. Before the war the numbers varied between 900 and 1,000. Of the total cases registered, 197 were males and 367 females; the respective figures between the ages of 20 and 45 were 51 and 124, and at older ages 120 and 203. The following figures



show the ratio of females to 100 male cases compared with the pre-war year, 1938 :—

					Females per 100 Males.	
					1944.	1938.
Ages 20—45	...	...	...	...	243	113
Ages 45 upwards	...	...	...	...	169	102
Total	...	...	...	...	186	110

Of the total cases, 268 were removed to fever hospitals against 377 for the previous year. There were only six deaths, four male and two female.

*Diseases of the Central Nervous System—Cerebro-Spinal Fever.—*

There was a slight increase in the number of cases of cerebro-spinal fever, 129 compared with 123 in 1943. The incidence is still above that of pre-war years, especially among young children under school age, with 71 cases compared with 41 in 1939, and 227 in 1940, when the recent prevalence began, as shown in the following table :—

	-5		-15		CASES. -45		45+		Total.		Mortality per cent.		Death Rates per Million.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1938	22	28	8	5	15	7	1	2	46	42	41.3	45.2	34
1939	23	18	9	12	12	6	1	—	45	36	28.8	16.6	17
1940	125	102	27	36	89	58	14	6	255	202	21.5	18.8	89
1941	100	88	27	28	74	56	19	16	220	188	20.0	21.2	80
1942	46	37	25	18	30	24	9	9	110	88	23.6	27.2	48
1943	42	32	14	5	17	6	3	4	76	47	14.4	27.6	23
1944	38	33	11	9	12	15	5	6	66	63	25.7	17.4	27

Deaths numbered 28, representing a death rate of 27 per million of the population against 23 in 1943 and 48 in 1942.

*Acute Polioencephalitis.*—There was only one case during the year, a boy under 5 years, registered in Maryhill district during November.

*Acute Poliomyelitis.*—The incidence of poliomyelitis was higher than it has been since 1938. There were 24 cases against 2 in 1943. The cases were scattered throughout the City, there being 2 in each of four Wards and only 1 each in most of the other Wards. All but 2 of the cases were registered during the warm months, May to October, the highest monthly number being 7 in August. There were 13 males and 11 females, and all but 4 of the cases occurred at ages under 10 years.

*Measles.*—For the third successive year measles was prevalent in the late Spring and early Summer months. The number of cases occurring each year since 1939 is given in the following table :—

			Cases.	Deaths.	Mortality per cent.
1939	...	...	1,462	2	0.1
1940	...	...	11,028	97	0.9
1941	...	...	1,613	11	0.7
1942	...	...	8,303	65	0.8
1943	...	...	7,843	31	0.4
1944	...	...	6,364	16	0.3

The mortality was unusually low, and out of 16 deaths, 9 occurred in the first year of life. Almost half the cases occurred in the age period 5—10 years. The incidence was widespread throughout the City, but was heavier in the eastern and northern Wards.

*Rubella.*—There was considerably less prevalence of this milk infection, only 718 cases being recorded against 3,950 for the previous year.

*Whooping Cough.*—Considerably fewer cases of whooping cough were registered in 1944 namely 3,690 against 5,589 in 1943. This infection, like measles, was also prevalent during the Spring and early Summer, when nearly 70 per cent. of the total cases occurred. The age incidence of the disease is similar to that of measles, and both sexes were also equally affected. Cases were scattered over all the Wards, but the highest incidence was in the eastern and northern districts.

Whooping cough is a more fatal disease than measles, the deaths in 1944 numbering 36, or more than double those caused by measles, whereas the cases of whooping cough were little more than half the total cases of measles. The mortality, 34 per million of the population, is considerably less than the rate of 86 for the preceding year. The seasonal prevalence is given in Appendix Table IX, and treatment in hospital in Table X. Of the total cases, 269 were removed to fever hospitals.

*Chickenpox.*—This affection is not notifiable, but there were reported 7,515 cases compared with 5,594 during the preceding year, 245 being removed to fever hospitals.

*Diarrhoea and Enteritis.*—The mortality from diarrhoeal diseases under 2 years of age was much higher, there being 701 deaths against 338 in 1943. The death rate per million of the population was 668, or more than double the rates of preceding years. The outbreak in infants which occurred in August—September is described in the Child Welfare Section of the Report.

The following table shows the deaths occurring each month and the average mean temperature for 1944, compared with 1943. Although the deaths in each month of 1944 are above those in 1943, with the exception of November and December, there is a very large increase in August, 149 against 28 in 1943, when the average temperature was 59.8° against 56.2° for the preceding year.

NUMBER OF DEATHS UNDER 1 YEAR ACCORDING TO MONTH OF DEATH.

		1944.		1943.				1944.		1943.	
		Deaths	Temp.	Deaths	Temp.			Deaths.	Temp.	Deaths	Temp.
January	...	27	40.7	26	37.8	July	...	43	59.7	24	59.0
February	...	29	38.2	14	42.1	August	...	149	59.8	28	56.2
March	...	44	41.3	21	43.5	September	...	116	51.4	40	52.6
April	...	61	47.5	13	48.2	October	...	62	46.1	47	49.3
May	...	43	50.3	10	50.8	November	...	33	38.9	47	42.0
June	...	35	55.5	22	56.4	December	...	28	38.0	31	38.6

*Anthrax.*—There was one case of anthrax. A 36 year old leather worker employed in the washing of untreated hides and in the care of an unhairing machine, developed a characteristic lesion on his cheek. He was sent to hospital by the work's doctor. Disinfection of the patient's home and clothing was carried out and contacts kept under observation. No other case occurred. The hides came to this leather works from various parts of Scotland and from Argentina, India, New Zealand, Madagascar, and Mombasa. Owing to the presence of large consignments of untreated hides in the works it was not possible to say which batch the patient had been handling.

*Scabies.*—The incidence of scabies during 1944 has fallen considerably and this decline has been continued. The total number of infected families brought to the notice of the Public Health Department during the year was 7,983, compared with 10,441 in 1943. The total number of cases of scabies from these infected families was 15,528, compared with 21,218 for the preceding year. In all, 90,696 treatments were given at the Scabies Treatment Centres to patients and contacts compared with 158,321 treatments during 1943.

There are now eight Scabies Centres, each holding three sessions daily, the evening session at each being for workers, male and female. It is anticipated that there will be a further reduction in the number of treatment centres by the middle of 1945 owing to the steady diminution in the number of infected persons.

At the beginning of the year 21 nurses were occupied in the home visitation and treatment of patients and contacts, and there are now 19 engaged in this type of work. In addition, these nurses have been used for the home visitation of patients during outbreaks of pneumonia, gastro-enteritis, and other infectious diseases.

The standard treatment of scabies cases consists of shower baths followed by the application of 25 per cent. emulsion of benzyl benzoate, and usually two or three treatments suffice to clear up the infection. This is the current standard treatment for this condition and has been found to be very successful.

## RESPIRATORY DISEASES.

*Pneumonia and Influenza.*—The mild weather during the winter influenced for the better the mortality due to the respiratory diseases. In 1944 the total death rate from respiratory diseases was the lowest on record, as shown in the following table of death rates since 1939 :

	1944.	1943.	1942.	1941.	1940.	1939.
Influenza ...	75	196	53	119	431	182
Bronchitis ...	312	306	339	458	680	341
Pneumonia ...	696	840	731	961	1,197	768
Others ...	118	143	133	134	204	136
	<u>1,201</u>	<u>1,485</u>	<u>1,256</u>	<u>1,672</u>	<u>2,512</u>	<u>1,427</u>

As regards incidence, although notifications are not too precise, the number of cases of acute pneumonia reported during 1944 was 5,680, as compared with 6,728 in 1943, and of influenzal pneumonia 90, as compared with 189. Of these, 3,000 were treated in the Fever Hospitals, 934 in the Corporation General Hospitals, and 124 in Voluntary Hospitals.

The death rate from influenza at 75 per million of the population was less than half the rate for the preceding year, when there was a mild outbreak of the disease towards the end of that year. The table shows that the death rate from bronchitis was practically the same as that for the preceding year, but there was a definite reduction



in the mortality from pneumonia, with a death rate of 696 against 840. This rate is the lowest hitherto recorded. The continued reduction in the mortality from pneumonia is an important feature of the vital statistics of the city. The average mortality from pneumonia during the war years has been around 800 per million of the population, whereas in former years the mortality was almost double that rate.

Mortality from pneumonia among males is usually 50 per cent. in excess of the female rate, a ratio still maintained; in 1944 there were 437 male as against 294 female deaths. Deaths occur mostly in the first year of life and again in later years for males from 45 years upwards, and at ages over 65 years in the case of women.

In 1943, when the influenzal form of pneumonia was prevalent, the highest death rates occurred in the residential districts, but in 1944, when mortality generally was low, the highest rates occurred in the working class wards, such as Govan with a mortality of 1,190, Woodside 1,172, Anderston 1,108, and Mile-End 1,046. The lowest rate was 269 in Yoker and Knightswood Ward.

### TUBERCULOSIS.

During 1944 there were notified 2,758 cases of pulmonary tuberculosis—20 less than in 1943. The trend of notifications during the past few years is shown as follows:—

1934-39	...	...	...	...	1,650 (average).
1940	...	...	...	...	1,908
1941	...	...	...	...	2,066
1942	...	...	...	...	2,324
1943	...	...	...	...	2,778
1944	...	...	...	...	2,758

The non-pulmonary notifications numbered 671, a decrease of 64 from the previous year.

The above figures imply a stationary incidence of pulmonary tuberculosis and a definite fall in the incidence of non-pulmonary tuberculosis.

As regards age groups, the number of cases notified in the 5-15 age group has fallen from 329 to 262, while as regards the 15-25 age group the number of cases has remained practically stationary—439 males as against 438 in 1943, and 637 females as against 640 in 1943. These figures may be noted with some satisfaction, although the incidence of pulmonary tuberculosis still remains at a high level.

During the year 1,195 persons died of pulmonary tuberculosis, as compared with 1,105 in the previous year. There were 244 deaths from non-pulmonary tuberculosis, as against 279 during 1943. This tendency for the death-rate to rise is entirely due to the increased incidence of the disease during the war years.

The following table gives a comparison of the various forms of non-pulmonary tuberculosis notified during recent years :—

			Involvement of Bones or Joints.	Involvement of Meninges.	Other Non- Pulmonary Forms.	Total.
1925	...	...	289	140	686	1,115
1930	...	...	254	214	579	1,047
1935	...	...	181	140	353	674
1940	...	...	208	189	272	669
1941	...	...	223	182	256	661
1942	...	...	211	192	311	714
1943	...	...	206	196	333	735
1944	...	...	234	171	266	671

It will be observed that meningeal tuberculosis, a fatal form of the disease, shows a tendency to fall.

A brief review of the registered cases of tuberculosis in the city is as follows. At 31st December, 1944, there were 7,776 cases of pulmonary tuberculosis, of which 2,810 had tubercle bacilli in the sputum, while there were 2,286 cases of non-pulmonary tuberculosis. The number of infectious cases of pulmonary tuberculosis has increased by 47 over last year.

At the end of the year there were 1,972 tuberculous patients occupying beds in Corporation and other hospitals, as compared with 1,921 in December, 1943, and 1,791 in December, 1942. This difference represents an increase in available accommodation for the treatment of tuberculosis.

In spite of this and other measures, the waiting list for admission to hospital remains high. The following table shows the position as at the end of the year :—

	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Total.
Under 5 years	62	10	72
5—15 years	68	3	71
Over 15 years	848	43	891
	<u>978</u>	<u>56</u>	<u>1,034</u>

The chief difficulty in augmenting hospital accommodation is the insufficiency of nurses. The proposal to adapt a pavilion at Belvidere Hospital for some 30-36 patients was approved, and it is hoped to open this pavilion at the end of August, 1945.

Of the 2,758 cases of pulmonary tuberculosis notified during the year, 158 were from death certificates. Over 300 were from Service Authorities in respect of Service men discharged on account of tuberculosis.

The tuberculosis dispensaries continue to be overworked, and have been carrying out special examinations on behalf of the medical boards under the National Service Acts, as well as undertaking other special reports. The number of sessions held during the year was 1,239. The primary attendances were 7,347, and the subsequent attendances 53,606. There were 69,511 domiciliary visits by the health visitors.

Of the total number of cases of pulmonary tuberculosis on the register at the end of the year, 681 were in the age group 5-15 years, but of these only 35 had positive sputa. Among female pulmonary notifications during the year, 25 per cent. of all cases were between the ages of 15 and 20, 23 per cent. between the ages of 20 and 25, and 21 per cent. between the ages of 25 and 35. These age groups contributed 70 per cent. of the total female notifications.

*Tuberculosis Allowances Scheme.*—This special scheme of allowances to certain types of tuberculous patients came into force in Glasgow on 5th September, 1943, and has been in operation since then. The total number of persons eligible for these grants since its inception till 15th May, 1945, was 1,474. The position at 31st May, 1945, is set out in the following table:—

Number of persons to whom allowances are payable	...	827
Number of persons to whom allowances ceased to be payable on recovery	... ..	401
Number of persons to whom allowances ceased to be payable on death	... ..	91
Number of persons to whom allowances ceased to be payable on account of receiving pensions, failing to continue treatment, etc....	... ..	155
Total applications granted	... ..	1,474
Weekly amount of allowances being paid	... ..	£838 15 9
Total amount of allowances paid from 16th May, 1944, to 15th May, 1945	... ..	£42,185 4 11

The above figures apply to patients with pulmonary tuberculosis only. It will be noted that in some 400 cases the allowances ceased

to be payable on the recovery of the patient and the resumption of full-time employment. The allowances are paid fortnightly in advance and are sent to the patient by registered post.

### HOSPITAL TREATMENT.

The following table shows the number of patients in hospital at 31st December, 1944, distinguishing between pulmonary and non-pulmonary tuberculosis. The purpose of this table is to show the approximate number of beds available in Corporation hospitals, other hospitals, and the Government emergency hospitals.

#### PATIENTS IN HOSPITAL AT 31ST DECEMBER, 1944.

##### (a) *Pulmonary Tuberculosis.*

	Adults.			Children.			Grand Total
	Males.	Females.	Total.	Males.	Females.	Total.	
Corporation Hospitals :							
Robroyston ...	169	222	391	2	13	15	406
Ruchill ...	69	169	238	13	19	32	270
Knightswood ...	50	—	50	14	1	15	65
Mearns Kirk ...	97	32	129	86	73	159	288
Stobhill ...	35	12	47	8	4	12	59
Southern General	5	15	20	—	—	—	20
Foresthall ...	16	4	20	—	—	—	20
Bellefield Sanatorium ...	—	88	88	9	30	39	127
	<u>441</u>	<u>542</u>	<u>983</u>	<u>132</u>	<u>140</u>	<u>272</u>	<u>1,255</u>
Other Hospitals :							
Bridge of Weir...	8	8	16	—	—	—	16
Ochil Hills ...	13	—	13	—	—	—	13
Lanfane Home ...	11	10	21	—	—	—	21
Emergency Hospitals :							
Bangour ...	61	25	86	—	—	—	86
Bridge of Earn...	73	—	73	3	—	3	76
Law Junction ...	—	84	84	—	1	1	85
	<u>166</u>	<u>127</u>	<u>293</u>	<u>3</u>	<u>1</u>	<u>4</u>	<u>297</u>
Totals ...	<u>607</u>	<u>669</u>	<u>1,276</u>	<u>135</u>	<u>141</u>	<u>276</u>	<u>1,552</u>

##### (b) *Non-Pulmonary Tuberculosis.*

Corporation Hospitals :							
Robroyston ...	86	79	165	12	20	32	197
Mearns Kirk ...	1	1	2	39	25	64	66
Other Hospitals :							
Philipshill ...	1	1	2	4	1	5	7
Bangour ...	3	9	12	9	5	14	26
Millport ...	3	1	4	70	41	111	115
Strathblane ...	—	—	—	7	2	9	9
	<u>94</u>	<u>91</u>	<u>185</u>	<u>141</u>	<u>94</u>	<u>235</u>	<u>420</u>
Totals ...	<u>94</u>	<u>91</u>	<u>185</u>	<u>141</u>	<u>94</u>	<u>235</u>	<u>420</u>
Grand Totals ...	<u>701</u>	<u>760</u>	<u>1,461</u>	<u>276</u>	<u>235</u>	<u>511</u>	<u>1,972</u>



The following table shows that the number of patients under treatment at the end of 1943 was 1,921, as compared with 1,545 in 1938, and that the total number of patients treated during 1944 was 5,054, as compared with 4,258 in 1938 :—

*Comparative Statement of Cases Treated in Hospital during  
Years 1938-1944.*

*All Forms of Tuberculosis.*

Year.	No. of Patients remaining in Hospital at end of previous year.	No. of Patients admitted.	Total Number of Patients treated during year.
1938 ...	1,545	2,713	4,258
1939 ...	1,588	2,593	4,181
1940 ...	1,374	2,414	3,788
1941 ...	1,588	2,561	4,149
1942 ...	1,650	2,733	4,383
1943 ...	1,791	3,140	4,931
1944 ...	1,921	3,133	5,054

Finally, the following table is intended to show the number of patients treated in hospital during 1944. The table shows that the average period of treatment of cases of pulmonary tuberculosis is approximately six months, and that a period of over one year is required for the treatment of an average case of non-pulmonary tuberculosis :—

*Cases Treated in Hospital during 1944.*

	Pulmonary Tuberculosis.			Non-Pulmonary Tuberculosis.			Grand Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
In hospital at 31st December, 1943	717	770	1,487	239	195	434	1,921
Admitted ...	1,380	1,365	2,745	204	184	388	3,133
Total treated during year ...	2,097	2,135	4,232	443	379	822	5,054
Dismissed ...	1,064	1,080	2,144	195	182	377	2,521
Died ...	291	245	536	13	12	25	561
Total remaining at 31st Dec., 1944	742	810	1,552	235	185	420	1,972

OUT-PATIENT TREATMENT BY ARTIFICIAL PNEUMOTHORAX.

In March, 1943, with the intention of avoiding undue delay in the admission of cases of pulmonary tuberculosis found suitable for pneumothorax treatment, it was decided as an experiment to treat a number of these cases as out-patients. Owing to the overburdened waiting list which has resulted from war conditions, the disease in many of these young persons would have progressed during the period of time between detection and admission to hospital to such an extent that artificial pneumothorax might have been an impossibility.

The procedure adopted was to select week by week two to four suitable recently detected cases and admit them to Baird Street Clinic as temporary in-patients, each sex being dealt with on alternate weeks. Induction was carried out on the day of admission, a simplified technique being used and refills were given on the two following days. On the third day the patients were taken home by ambulance to continue rest and other supplementary treatment there and to return to Baird Street for refills at prescribed intervals.

By this means, therefore, early treatment was made available for a number of patients, and was successful in 64 per cent. The experiment was continued in 1944, when 122 cases were so treated, of whom 87 did well. Seventy-two of the 87 were still attending at the end of the year. In 35 cases the scheme was unsuccessful, 18 from failure to obtain collapse, 9 having to be admitted to hospital for further treatment, and 8 defaulting. Thus of 122 cases treated as out-patients by artificial pneumothorax in 1944, 71 per cent. proved successful.

During the year 1944 the following work was carried out at Baird Street Artificial Pneumothorax Clinic :—Artificial pneumothorax refills, 6,638 ; screening, 1,588 ; aspiration, 24 ; out-patient inductions, 122 ; a total of 8,372 attendances.

#### SURGICAL TREATMENT IN RUCHILL HOSPITAL.

The work of this unit continued very satisfactorily during the year, and in many cases assisted outlying sanatoria in dealing with their surgical problems, especially adhesion section and thoracoplasty. Modern treatment requires the services of a good surgical team trained in thoracic work if full advantage is to be taken of developments in chest surgery.

Briefly the work of this unit can be summarised as follows :—

	Number of Operations.
Adhesion Section ... ..	140 (120 patients)
Phrenic crush ... ..	79
Thoracoplasty ... ..	54 (30 patients)
Lobectomy for Bronchiectasis ... ..	6
Pneumectomy for Carcinoma ... ..	3
Thoracotomy for Carcinoma ... ..	2
Bronchoscopy ... ..	11
Rib Resection for Empyema ... ..	5
Thymectomy ... ..	1
Ligation of Pulmonary Artery... ..	1
Appendicectomy ... ..	1
	<hr/> 303 <hr/>

## SURGICAL WORK AT ROBROYSTON HOSPITAL.

The surgical team in Robroyston Hospital, in addition to chest work, carries out a great deal of operative work on cases of non-pulmonary tuberculosis. Some idea of the operative work done can be gained from the particulars stated in the following table :—

	SITE OF LESION.	Number of Operations.
<i>Non-Pulmonary Cases—</i>		
Tuberculosis of Spine	... ..	4
Tuberculosis of Bones other than Spinal	... ..	7
• Tuberculosis of Joints other than Hip	... ..	13
Genito-urinary Tuberculosis	... ..	96
Abdominal Tuberculosis	... ..	—
Tuberculosis of Lymphatic Glands	... ..	4
Multiple and Miscellaneous Lesions	... ..	24
<i>Pulmonary Cases, including Adhesion Section, etc.—</i>		
Operations on Thorax	... ..	229
		<u>377</u>

## BAIRD STREET ACTINOTHERAPY CLINIC.

The number of patients attending this clinic at the end of 1944 was 210, which compares with 197 at the end of 1943. During the year 234 patients were dismissed, and the results in their cases are summarised in the following table :—

	Number of Patients.			Average Duration of Treatment in Months.		
	Healed.	Improved.	Not Improved.	Healed.	Improved.	Not Improved.
Superficial Adenitis	... 99	29	20	7·9	6·0	1·7
Lupus Vulgaris	... 5	5	4	16·2	46·4	3·5
Abdominal Tuberculosis	15	4	6	4·9	2·8	2·0
Bone and Joint Tuberculosis	... 5	1	4	11·0	5·0	2·5
Other Tubercular Conditions	... 5	3	5	7·0	6·0	1·2
<i>Miscellaneous—</i>						
(a) Hilum Adenitis	... 5	2	1	5·8	3·0	2·0
(b) Bronchitis	... 1	—	—	6·0	—	—
(c) Others	... 5	1	—	5·6	2·0	—
	<u>140</u>	<u>45</u>	<u>40</u>			

The results of treatment of 25 other patients who attended for less than one month are not included in the table.

During 1944 46 patients attended the special lupus clinic on 1933 occasions and received 3,900 hours of treatment from the Finsen-Lomholt lamps. Four of these were dismissed, of whom one was regarded as healed after 130 hours of treatment, and three, who took their own discharge, as improved after an aggregate of 766 hours of treatment.

It may be interesting to consider briefly the results obtained by the use of the Finsen-Lomholt lamps, of which three were installed in 1938. These lamps have been maintained in almost continuous use in spite of such wartime difficulties as replacing damaged parts and the unreliability of the carbons provided by the Carbon Pool whose performance, and therefore the results produced in the patients, could never be predicted with accuracy. In all, 109 patients have been treated; in 26 the lesions are healed, and in 48 there have been

varying degrees of improvement; 8 have not improved, and two have died from complications of their lupus affection. Twenty-five more have been recorded as having defaulted, but it is believed that many of this group are in the Services or are working away from Glasgow, and it is known that four have died from causes not related to lupus; all had shown slight improvement when last seen, but it is probable that in those who have not been able to obtain treatment elsewhere extension of the disease will have taken place. To compare further the healed group and the improved group, the extent of skin involvement in the former was on the average only slightly more than one-third what it was in the latter, and the desired result was obtained in an average period of 17 months in the first group against the average of 41 months' treatment (necessarily an incomplete period) given to the second group. Finally it should be noted that the Finsen-Lomholt lamps have not been the only weapons in the armoury used against the disease in the patients mentioned; other methods of treatment have also been employed when desirable.

#### FLORENCE STREET (GORBALS) X-RAY CLINIC.

The work done at this Clinic has again shown a marked increase during 1944, the number of cases dealt with being almost double that of 1943. Another important feature was the appointment, on a full-time basis, of a sister-radiographer, who since February has undertaken all the technical work previously done by part-time visiting radiographers. This change became necessary because of the increased



demands made upon the X-ray unit, and the present arrangement has been found much more satisfactory.

By this means it was possible to make considerable extensions to the work undertaken. The area previously served by Florence Street X-ray Unit was the South-eastern Division, but it was now in addition made available for cases from all clinics in the Govan area, and also for cases sent from the Burgh of Rutherglen. Thus, since March, this unit has been serving as an X-ray centre for a large part of Glasgow and for a neighbouring Health Authority. Since cases from these areas were formerly directed to Ruchill, the arrangement now operating is not only more convenient for the patients concerned, but also gives some much-needed relief to the Ruchill X-ray department. An increase in staff with a view to yet a further expansion of work is contemplated.

The total number of patients X-rayed during 1944 was 4,675, compared with 2,497 in 1943. Cases from tuberculocis clinics numbered 4,017.

Patients sent from ante-natal and child welfare clinics numbered 413, and from school clinics 15. The remaining patients—a total of 230—were dealt with on behalf of the Burgh of Rutherglen.

### MASS RADIOGRAPHY UNIT.

Active operations by the Mass Radiography Unit were begun in June, 1944. At first the persons examined were drawn from the Public Health Department; later, employees of other Corporation departments were examined, as well as Civil Service workers in the city. In the last three months of the year the scope of examination was extended to include school children of school leaving age and upward, to students, and to clothing workers. With the exception of a period of six weeks, when the Unit was at the Art Galleries for the Municipal Exhibition, all these examinations were carried through at the Centre at Ashley Street.

During 1944 14,444 persons were examined—6,722 men and 7,722 women. It was found that, apart from school children, most of those presenting themselves for examination were between 16 and 35 years of age; there were, however, rather fewer men between 20 and 30 and rather more about the age of 40. Hence the dangerous young adult ages were well represented in women—a fact which will largely

explain the distinct preponderance of the female sex in those found to have active tuberculosis.

On the average, out of every 1,000 persons in whom miniature films were taken, 79 were recalled for a full-size film of the chest and 27 for clinical examination. Of the same number, 8 persons required hospital treatment for active disease, and 9 care at a tuberculosis dispensary or from their own doctor; 21 other persons with inactive tuberculosis required no further action. In the case of 7 other people, the presence of pulmonary tuberculosis was already known. There were also 21 examples of non-tuberculous disease in the chest, mostly cardiac abnormalities.

Of those with active pulmonary tuberculosis who were resident in Glasgow—a total of 104—71 were admitted to hospital, 31 were referred to the tuberculosis dispensary, and 2 to their own doctor.

The following table summarises the results for the year :—

	Males.	Females.	Total.
Total Examinations ... ..	6,722	7,722	14,444
Number in whom Large Film taken ... ..	598	544	1,142
Percentage of Whole ... ..	8.90	7.04	7.91
Number in whom Clinical Examination done ... ..	180	211	391
Percentage of Whole ... ..	2.68	2.73	2.71

#### PULMONARY TUBERCULOSIS.

##### A. Tuberculous Cases in which Action taken—

###### Total.

Number of Cases ... ..	103	143	246
Percentage of Whole ... ..	1.53	1.85	1.70

###### Active Pulmonary Tuberculosis.

Number of Cases ... ..	35	87	122
Percentage of Whole ... ..	0.52	1.13	0.84

###### Inactive Pulmonary Tuberculosis.

Number of Cases ... ..	68	56	124
Percentage of Whole ... ..	1.01	0.73	0.86

##### B. Tuberculous Cases in which No Action taken.

###### Total—All Inactive Pulmonary Tuberculosis.

Number of Cases ... ..	212	196	408
Percentage of Whole ... ..	3.15	2.54	2.82

##### C. Previously known Pulmonary Tuberculosis.

Number of Cases ... ..	25	9	34
Percentage of Whole ... ..	0.37	0.12	0.24

#### NON-TUBERCULOUS CASES.

Total ... ..	153	144	297
Percentage of Whole ... ..	2.28	1.87	2.06

## X-RAY WORK.

The following table shows the amount of work done at the various institutions :—

Institution	Number of Patients Skiagraphed.		Number Skiagraphs taken.	Number of Screen Ex- aminations only.	Total Patients.
	Indoor	Outdoor			
Ruchill ... ..	4,639	12,331	19,274	5,205	22,175
Robroyston ... ..	2,349	116	3,334	2,122	2,465
Mearnskirk ... ..	5,930	455	12,611	352	6,385
Baird Street ... ..	—	—	—	8,425	728
Bellefield ... ..	585	—	—	945	160

## VENEREAL DISEASE.

The three most important events of the year were the development of newer methods of treating sulphonamide-resistant cases of gonorrhoea, the successful follow-up of defaulters, and the continued decrease in venereal disease during 1944.

Penicillin is now in use in Belvidere and Ruchill Hospitals and in the Black Street Male Clinic for the treatment of venereal disease patients. At present it is reserved for those cases of gonorrhoea which fail to respond to the sulphonamides. During the treatment of patients suffering from acute gonorrhoea with sulphapyridine, sulphathiazole, and sulphadiazine, it was found that a small percentage of the cases failed to react to the drug. Another small number of patients would appear to harbour a strain of the gonococcus which has become what is known as sulphonamide-fast, *i.e.* the germ develops a temporary resistance to the drug. Two new methods of dealing with these cases have been used in Belvidere Hospital during the year; one is the injection of penicillin, the other a fever treatment produced by the intravenous injection of T.A.B. vaccine producing a high and sustained fever. Sulphonamides given during the fever now have a marked effect on the gonococcus, and it is only an exceptional patient who is not completely cured by this method.

One of the first groups of cases treated in this way was sailors sent back from Italy with sulphonamide-fast gonorrhoea which had lasted for three months; all responded immediately to fever treatment and left the hospital cured. Over 70 patients have now been treated by this method in Belvidere Hospital by Dr. Kenneth Cochran, under the supervision of the Consulting Physician, Dr. M'Gregor Robertson,

and in only one case has there been a failure. This case was resistant both to penicillin and to sulphonamides, but after fever treatment the condition responded to penicillin and a cure was obtained.

Penicillin has also been used for seamen patients suffering from acute gonorrhoea who cannot wait to complete the normal sulphonamide course of treatment as their ship may be about to sail. A total dosage of 120,000 Oxford units of penicillin is used in these cases, and this amount is sufficient to produce a complete cure. No attempt has yet been made to use penicillin in the treatment of syphilis, as a dosage of at least two and a half million Oxford units is required, and, in any case, this use of penicillin is still in an experimental phase. Some doubt has been expressed as to whether a lasting cure is obtained even with such a large dosage, and in Glasgow so far syphilis is treated by neoarsphenamine and bismuth—a combination of drugs which is capable of producing a permanent cure.

With regard to the follow-up of defaulters, the number of visits paid to female defaulters by the nurse almoners was further increased over the high figure for 1943, and in the case of males the follow-up letters sent were more than doubled during the year 1944. The result was that 78 per cent. of the female patients resumed treatment after visits paid by the nurse almoners and the receipt of follow-up letters during 1944, as compared with 64·2 per cent. in 1943 and 60·4 per cent. in 1942. With regard to the males, 80·3 per cent. of the defaulters returned for treatment after the receipt of follow-up letters and visits by the senior attendants, compared with 72 per cent. in 1943, which was the highest figure so far then obtained.

These results have followed on the use of the new visible filing index of all patients attending *ad hoc* centres and suffering from acute infections. This system permits of the detection of the default of a patient within one week of his last attendance, and, with the co-operation of the nurse almoners, the senior male attendants, and the clerical staff, these cases are followed up immediately either by visit or by letter. The staff are now enabled to give more time to follow-up work, and the result has been a greater proportion of defaulters returning immediately for treatment.

The incidence of acute syphilis and acute gonorrhoea in males and females has decreased during the year, and there has also been a fall in the percentage of positives in pre-natal blood tests and in the incidence of congenital syphilis, both total cases and cases under one year.



With regard to venereal disease in adults, the greatest decrease is in acute syphilis in males, which is now almost half what it was in the peak year of 1942—454 compared to 778—but it is still 81 per cent. above the figure for 1938. The incidence of acute syphilis in females has also decreased from 395 during the peak year of 1942 to 262 in 1944, but the latter figure is still 111 per cent. above the 1938 figure.

The number of male cases coming to the clinics in 1944 suffering from acute gonorrhoea has decreased by 92 to 1,231, while female gonorrhoea patients remain approximately constant at 407 compared with 406 in 1943.

Special attention has been paid to the tracing of sources of infection from both male and female centres. The following table shows the work carried out by the staff of the male and female *ad hoc* centres :—

#### VENEREAL DISEASES, 1944—AD HOC CLINICS.

##### *Contact, Tracing, and Follow-up of Sources of Infection.*

###### *Referred by Male Clinics.*

			Wives.		Consorts.	
			Number.	Percentage.	Number.	Percentage.
Attended	...	...	118	88.1	67	63.2
Did not attend	...	...	16	11.9	39	36.8
			<hr/> 134		<hr/> 106	

Total Referred, 240 ; Total attended, 185—77.1 per cent.

###### *Referred by Female Clinics.*

							Husbands and Consorts.	
							Number.	Percentage.
Attended	...	...	...	...	...	...	25	73.5
Did not attend	...	...	...	...	...	...	9	26.5
							<hr/> 34	

Total Referred, 34 ; Total attended, 25=73.5 per cent.

Under Defence Regulation 33B any person who has been named by two patients as the source of their infection can be compelled to submit to examination, and if found infectious to treatment. Action is taken in Glasgow on the receipt of one notification, and this has been the means of bringing a number of contacts under treatment. The

following table illustrates the working of the Regulation in Glasgow during the year :—

DEFENCE REGULATION 33B—FOR THE YEAR 1944.

	Male.	Female.
Form I received ... ..	12	183
Visits made ... ..	9	161
Attending when notified ... ..	4	17
Suspects found ... ..	4	66
Suspects came to Clinic ... ..	4	49
Suspects did not attend ... ..	—	9
Suspects refused to attend ... ..	—	—
Suspects not found ... ..	1	37
Suspects gone away from address ... ..	—	14
Insufficient data ... ..	3	55
Suspects notified twice ... ..	—	2
Form 2 served ... ..	—	—

The publicity campaign has been continued during the year, and its effect on the attendance of patients suffering from non-venereal conditions but who may have had reason to believe that they were suffering from venereal disease is shown in the following table :—

ATTENDANCE OF PATIENTS SUFFERING FROM NON-VENEREAL CONDITIONS DURING YEARS 1941, 1942, 1943, AND 1944.

Year.	Male.	Female.	Total.
1941 ... ..	880	246	1,126
1942 ... ..	1,058	398	1,456
1943 ... ..	2,002	708	2,710
1944 ... ..	1,656	721	2,377

*Syphilis.*—The number of male patients suffering from acute syphilis coming to the clinics for the first time in 1944 was 454, which compares with 671 for the year 1943 and 778 for the year 1942. The incidence of acute syphilis in females decreased from 368 in 1943 to 262 in 1944, which compares with 395 in 1942. Patients suffering from late syphilis decreased from 397 in 1943 to 329 in 1944.

Congenital syphilis at all ages has decreased, and there is also a decrease in the disease in children under one year. The following

table shows the position during the past twenty years :—

#### CONGENITAL SYPHILIS.

Year.	All Cases.			Cases—1 Year	Rate per 1,000 Live Births.
1922	...	...	1,023	335	12.8
1927	...	...	551	119	5.0
1932	...	...	240	72	3.2
1937	...	...	177	36	1.6
1941	...	...	67	15	0.75
1942	...	...	71	27	1.3
1943	...	...	97	32	1.4
1944	...	...	83	29	1.3

The fall in the incidence of acute syphilis in females is reflected in the results of the blood test, which can be seen from the following table :—

#### PRE-NATAL BLOOD TESTS.

Year.					Number.	Percentage Positive.
1925	...	...	...	...	—	4.9
1930	...	...	...	...	1,749	2.8
1935	...	...	...	...	3,334	1.8
1940	...	...	...	...	8,714	1.3
1942	...	...	...	...	10,265	1.18
1943	...	...	...	...	11,067	1.7
1944	...	...	...	...	10,260	1.3

All specimens are submitted to the Kahn Test, and if positive the Wassermann Test is also applied to the same specimen and a repeat specimen requested.

The essential feature of the treatment of expectant mothers who may suffer from syphilis is that patients are treated where they are found. There are special sessions at ante-natal centres, and should the patient have come under treatment too late to have a healthy child, mother and child are both treated at the same maternity and child welfare centre.

*Gonorrhoea.*—The incidence of acute gonorrhoea in males and females has fallen from 1,730 in 1943 to 1,637 in 1944. There has been a decrease in the incidence of chronic gonorrhoea in males and females. The exact figures for the disease in females are shown in the following table. It will be seen that there has been a steady and marked decrease since 1938, and this can be regarded as a result of the treatment of acute gonorrhoea by the newer methods.

## CHRONIC GONORRHOEA IN FEMALES.

Year.	Number.
1938	312
1939	266
1940	229
1941	119
1942	88
1943	93
1944	54

*Venereal Disease in Seamen.*—Seamen continue to form a considerable proportion of the patients attending the male centres, as can be seen from the following table :—

BLACK STREET, BROOMIELAW, BELLAHOUSTON, AND SOUTHERN  
GENERAL HOSPITAL CLINICS.

## NEW AND TRANSFERRED-IN PATIENTS.

## PROPORTION OF SEAMEN TO TOTAL CASES.

		Early Syphilis.			Acute Gonorrhoea.		
		All.	Seamen.		All.	Seamen.	
1939	...	265	54	20.4%	1,133	75	6.6%
1940	...	403	133	33.0%	1,210	224	18.5%
1941	...	793	434	54.7%	1,671	539	32.3%
1942	...	1,082	589	54.4%	1,543	532	34.5%
1943	...	1,149	577	50.2%	1,393	436	31.3%
1944	...	831	452	54.3%	1,356	428	31.6%

*In-Patient Treatment.*—During the year 1944 489 patients were treated in hospital, compared to 694 in 1943. The number of male patients admitted to Belvidere Hospital was 219 in 1944, a decrease of 110 compared with the previous year. Patients admitted to Baird Street Auxiliary Hospital and Ruchill Hospital decreased from 341 in 1943 to 244 in 1944. The following table shows admissions of patients to hospitals of the Local Authority and elsewhere for the treatment of venereal disease :—

## SHOWING TOTAL NUMBER OF PATIENTS ADMITTED FOR IN-PATIENT TREATMENT

	Sex.	Primary Syphilis D.G. + W.R.	Primary Syphilis W.R. +	Secondary Syphilis.	Latent Syphilis. (1st year).	All Later Stages.	Congenital Syphilis.	Extra-genital Infection.	Acute Gonorrhoea.	Chronic Gonorrhoea.	Soft Chancre.	Non-Specific Venereal Disease.	Non-Venereal.	Total Admissions.	Aggregate Days' Residence.
Belvidere Hospital	M.	14	46	20	4	10	—	1	77	5	12	28	2	219	8,362
Baird Street	M.	—	—	—	—	—	3	—	1	—	—	—	1	5	689
	F.	1	5	10	—	—	10	—	32	5	—	—	6	69	4,236
Ruchill Hospital	M.	—	—	—	—	—	4	—	—	—	—	—	6	10	2,616
	F.	1	7	56	—	6	4	—	70	3	1	—	12	160	13,284
Other Hospitals	M.	—	—	—	—	6	11	—	—	—	—	—	—	17	677
	F.	—	—	—	—	3	6	—	—	—	—	—	—	9	591
Totals		16	58	86	4	25	38	1	180	13	13	28	27	489	30,455



*Attendance of Patients.*—Patients attending for the first time the various treatment centres numbered 6,544, compared with 7,740 in 1943. There were 121,291 attendances of new and old cases, and 489 patients were admitted for in-patient treatment, 185 being admitted directly without previous attendance at a centre. Corporation *ad hoc* centres dealt with 89 per cent. of all acute venereal disease.

The following table summarises the attendances of new patients at the various centres:—

	<i>Ad Hoc</i> Treatment Centres		Glasgow : All Centres.
	Males.	Females.	
Acute Syphilis (includes Primary, Secondary, and Latent in the First Year of Infection)	396	163	716
Acute Gonorrhoea ... ..	1,204	340	1,637
Total Acute Venereal Disease ... ..	1,600	503	2,353
Late and Congenital Syphilis... ..	109	84	412
Chronic Gonorrhoea ... ..	47	53	103
Total Chronic Venereal Disease... ..	156	137	515
Other Diseases, including Soft Sore, Septic Balanitis, etc. ... ..	942	69	1,299
Non-Venereal ... ..	1,593	545	2,377

The following table shows the amount of arsenical treatment given to cases of early syphilis who have been dismissed as cured or who have defaulted during the year:—

Less than One Course of "914" ...	176
One Course ... ..	160
Two Courses... ..	76
Three Courses ... ..	22
Four or more Courses ... ..	15
Total ... ..	449

From the table it will be seen that 176 patients who were dismissed or defaulted during the year received less than one course of neo-arsphenamine. This group has been investigated and it has been found that 107 of these patients had to have their treatment with arsenic interrupted owing to the occurrence of some ill-effect or had an extended course of treatment which for tabulating purposes is not regarded as a complete course. Those patients who reacted unfavourably to arsenic received several courses of treatment with bismuth, and in all the 107 cases the results of treatment could be regarded as satisfactory. The remaining 69 cases received inadequate treatment.

Of the 42 males, 24 probably were non-infectious when they defaulted, but 18 defaulted before the completion of their first course and either refused to resume treatment or could not be found at the address given. With regard to the 27 females, the majority were patients who had been in Ruchill Hospital or Baird Street Auxiliary Hospital but had decamped or could not be found at the address given.

*Incidence of Jaundice during Treatment.*—There was a fall in the incidence of jaundice of all degrees among new cases of early and late syphilis under treatment at the male *ad hoc* treatment centres. Of 396 cases of early syphilis, 22.5 per cent. developed jaundice, while 7.3 per cent. out of 109 cases of late syphilis developed this complication. Only 10 of the early syphilitic jaundice patients required treatment in hospital, and none of the cases of jaundice in late syphilis.

*Issue of Salvarsan Substitutes to Medical Practitioners.*—During the year 15 medical practitioners received free supplies of salvarsan substitutes for the treatment of private patients. The total number of doses issued was 726, which compares with 784 in 1943.

*Follow-up of Defaulters.*—As has already been mentioned, the follow-up of defaulters by personal visits of the nurse almoners, and in the case of males by follow-up letters and visits by the senior attendants of the male centres, has resulted in a high proportion of the patients resuming treatment. During the year the nurse almoners visited 1,158 female patients on 1,883 occasions and persuaded 78 per cent. of the patients to resume treatment. Wrong name and address had been given on 67 occasions.

With regard to the males, 2,135 follow-up letters were sent to 1,423 patients who defaulted during treatment, and 80.3 per cent. of the patients resumed treatment. This compares with 899 follow-up letters sent to 453 patients during 1943, with 72 per cent. of the patients during that year resuming treatment. The figure for the year 1944 is the highest yet attained. Wrong name and/or address were given by 12 per cent. of the defaulting patients.

## SECTION IV.

## PORT HEALTH AUTHORITY.

The jurisdiction of the Port Health Authority remains unaltered and continues to operate on the lines agreed upon at the outbreak of the war. The staff consists of three Medical Officers, a Chief Port Inspector, eleven Sanitary Inspectors, and five Rat Catchers. The three Medical Officers and seven Inspectors are stationed at Greenock. The extended premises at Greenock provide ample accommodation for the staff. The work of the Port Inspectors at Greenock is almost entirely confined to boarding duties.

The same number of launches operate, and give excellent service. The Glasgow Corporation Transport Department still gives speedy and efficient service, while Mr. Ashford, the Senior Smoke Inspector, acts as Technical Adviser.

The Medical Services carried out at Greenock in connection with the shipping there continued on the lines described in previous Reports. The following table shows the number of cases found on board incoming ships, and their disposal :—

Disease.	Removed to Hospital.	Sent Home.	Referred to Clinic.	Left on Board.	Died.	Total.
Scarlet Fever ...	43	—	—	—	—	43
Diphtheria ...	39	—	—	—	—	39
Typhoid Fever ...	22	—	—	—	—	22
Measles ...	108	11	—	3	—	122
Erysipelas ...	7	—	—	—	—	7
C.S.F. ...	8	—	—	—	—	8
Dysentery ...	72	—	—	22	—	94
Infective Jaundice ...	11	—	—	—	—	11
Malaria ...	77	4	—	34	1	116
Acute Anterior Polio- myelitis ...	5	—	—	—	—	—
Meningitis ...	5	2	—	—	—	7
Pneumonia ...	142	—	—	1	1	144
Tuberculosis (Pul- monary) ...	83	14	—	1	—	98
Tuberculosis (Other Lesions) ...	2	—	—	—	—	2
Whooping Cough and Measles ...	1	—	—	—	—	1
Whooping Cough ...	3	3	—	—	—	6
Chickenpox ...	56	1	—	—	—	57
Mumps ...	189	2	—	5	—	196
German Measles ...	60	4	—	2	—	66
Rheumatic Fever ...	4	—	—	—	—	4
Influenza ...	15	—	—	—	—	15
Scabies ...	9	—	1	2	—	12
Venereal Disease ...	481	4	1,952	90	—	2,527
Accidents ...	167	6	17	8	—	198
Other Illnesses ...	1,354	17	23	38	1	1,433
	<u>2,963</u>	<u>68</u>	<u>1,993</u>	<u>206</u>	<u>3</u>	<u>5,233</u>

*Smallpox*.—No cases were found during the year but several ships arrived at the Anchorages on board which cases had occurred. These ships were subjected to the prescribed measures.

*Typhoid Fever—Outbreak on Shipboard*.—An outbreak, of which the following is a brief description, occurred on board ship and consisted of 18 cases, all of which were confirmed bacteriologically. The vessel concerned left Glasgow on 5th May and arrived at Algiers on the 14th. She left Algiers on 20th May and arrived back in Glasgow on the 29th. There was no history of typhoid or any illness suggestive of typhoid on previous voyages over a period of several months. The first case became ill on or about 27th May and the last on 27th June.

The cases, by dates of onset of disease, are divisible into three groups. The first group consisted of 14 cases, including one ship's officer, three junior officers, one military passenger (officer), four of the catering staff (two stewards, a cook, and a Goanese pantry-boy), three assistant engineers, and two Italian prisoners-of-war (officers). Thus, in the first group, the messes affected were the officers' mess, engineers' mess, saloon, galley, and prisoners-of-war officers' mess, the implication being that if food were the source of infection it must have been contaminated before issue to the various saloons or messes. The second group, consisting of three engineers, all became ill on 14th and 15th June, and the last patient, also an engineer (the third group), sickened fourteen days later on 27th June. Thus the first group consisted of cases distributed among different sections of the crew and passengers, while subsequent cases were confined to the engineers' mess.

The actual dates and other particulars of the patients are given in detail as follows :—

Date of Sickening.	Rank.	Age.	
27/5/44	Third Officer ...	22	} First Group.
28/5/44	Steward ...	51	
29/5/44	Military Passenger ...	27	
1/6/44	Officer Cadet ...	18	
1/6/44	Radio Officer ...	20	
1/6/44	Second Steward ...	25	
1/6/44	Italian Prisoner-of-War ...	—	
2/6/44	Purser's Clerk ...	22	
2/6/44	Pantry Boy (Goanese) ...	24	
3/6/44	Refrigerating Engineer ...	22	
3/6/44	Italian Prisoner-of-War ...	—	
4/6/44	Assistant Engineer ...	21	
6/6/44	Assistant Engineer ...	22	
7/6/44	Third Cook ...	21	
14/6/44	Assistant Engineer ...	21	} Second Group.
15/6/44	Refrigerating Engineer ...	22	
15/6/44	Assistant Engineer ...	23	
27/6/44	Fourth Engineer ...	25	Third Group.



The bulk of the cases in the first group sickened between the 1st and 4th June. The five cases outside of these dates might be explained by shortened or prolonged incubation periods.

Of the total number of cases seven were engineers and members of the engineers' mess. Also, as already mentioned, all the cases subsequent to the first wave—four in all—were engineers. The total number of engineers was 24, so that the incidence of typhoid in this group was 29 per cent.

*Development of the Outbreak.*—Although cases were occurring from 27th May onwards, it was not until 14th June that information was obtained suggesting that an outbreak of typhoid was taking place. Many of the crew had gone on leave and several had taken ill in different parts of Great Britain. Until these cases were diagnosed and information sent back to the ship, the Port Authority had no knowledge of them. Immediately it was recognised that there were multiple cases, however, intimation was sent to Medical Officers of Health of the areas to which men had proceeded on leave, informing them of the circumstances. The Service Authorities were also similarly informed.

Full information regarding some cases relegated to the first group by date of onset was not available till as late as the first week in July.

*Investigation.*—The dates of sickening when related to the probable dates of infection suggested that the first group of cases had sustained their infection when the ship lay in the Mediterranean port and during the following week at sea, that is, between 14th and 27th May and probably between 18th and 23rd May. Careful enquiry from the patients in the first group failed to identify any source ashore, and since the dates suggest a continued distribution of the contagion after sailing, there appeared to be strong evidence that some article of food taken on board as ship's stores might have been the vehicle. Fresh vegetables, including water-cress, and some water had, in fact, been taken on board at Algiers. All vegetables and water taken on board at Algiers had been used up within a week of sailing. The water remaining on board ship was examined bacteriologically on arrival in Glasgow, with negative results. Ice, some of which was taken on board at Bombay during a previous voyage, was also investigated, likewise with negative results. The menu supplied was common to all passengers and crew on board ship, and therefore despite the most careful investi-

gation it was impossible to incriminate any particular item. As stated already, three or four separate messes were involved in the first group of cases.

The carrier question was also investigated. Samples of blood were taken from the whole of the staff of the catering department and the engineers. These samples were examined for H, O, and Vi agglutinins. Particular attention was paid to the Vi results on the assumption that a positive reaction might be useful in selecting individual members for further bacteriological examination. The number of positive Vi results was very small, and further examination of these cases gave no indication that they were carriers.

Subsequently it was arranged that all the catering staff would be passed through hospital and two samples of urine and faeces from each examined for *B. typhosus*. This involved a stay in hospital in each case of from two to three days upwards. In all, about 160 persons were so dealt with and the results were all negative. All members of the engineers' mess also submitted specimens for examination. These specimens were likewise all negative. Two engineer officers who gave a history of previous attacks of typhoid fever were taken into hospital for investigation, with negative result. Thus no carrier was found who might have been the origin of the outbreak on the ship. Likewise, nothing was found to indicate that any of the crew had become a carrier following an ambulant attack.

These examinations were carried out in hospital during the first ten days of July, so that they were directed towards the detection of latent or ambulant cases as well as to chronic carriers or carriers who may have arisen during the outbreak.

Among the native crew, numbering about 150, apart from one pantry-boy in the first group, no cases occurred. Indeed, only two showed pathogenic bacteria in the stools—one Flexner and one Sonne dysentery.

*The Cause of the Outbreak.*—In default of any definite findings as to the source of the outbreak, it seems most plausible to attribute the first group of cases to infection distributed in food taken on board at Algiers, and to attribute the second and third waves, three cases and one case respectively, involving only the engineers' mess, to secondary infection from cases in the first group. There was no evidence what-

ever of special dietary or menus being served to this mess which could explain why it alone was involved in the subsequent spread of the infection. The conclusion is that these cases were directly infected from individuals in the first group.

It is interesting to note, however, that there were two engineers whose duty it was to maintain the refrigerating apparatus and both of these became infected, one in the first group and one in the second. We made special enquiries as to their duties and found that they had no special access to the contents of the refrigerators nor had they any means of securing special supplies from the refrigerators for their own mess. They sat at the same table at mess, however, and it is not impossible that one infected the other by personal contact or by food handled by them at table.

*Further Points of Interest.*—From 11th June onwards the vessel was in dry dock and a party of ship workers were on board. These men received all meals in one of the saloons. As a result of observations made, it was found that none of them sustained an attack of typhoid fever.

One of the cooks went on leave on 1st June and returned on the 13th. He was, in fact, a trifle off colour at that time but did not disclose the fact in any way until the 17th, when he was removed to hospital. During that period he was at work in the galley. It cannot be shown that he gave rise to any cases.

*Action Taken.*—Besides the investigations above-mentioned the following action was taken :—

- (1) Water chlorinated and water system reviewed.
- (2) Refrigerator and stores cleared out.
- (3) Hygiene of galley stepped up ; disinfectants used freely for hands ; washing of hands insisted upon, etc.
- (4) Separate latrines in dry dock reserved for crew.
- (5) Intimation to Medical Officers of Health of areas to which members of crew proceeded on leave, and intimation to Military Authorities.

- (6) Recommended that sanitation of engineers' quarters, lavatories and bathrooms should be attended to.
- (7) Only hot meals served on the ship.
- (8) Inoculation state of the crew checked up and inoculation offered to those requiring it.

*Clinical Types.*—Several of the cases were moderately severe ; at least two might be considered severe ; and the remainder were relatively mild. Accurate details of the inoculation state of the patients are not available, but it is known that two of the severest cases were inoculated within the past four years. One of these had been inoculated in 1940 and again in 1943. So far as can be gathered, out of twelve cases which were admitted to the Glasgow Fever Hospitals, six had been inoculated by T.A.B. vaccine at varying dates from a few months to three or four years previously. The existence of immunity reactions resulting from previous inoculations rendered the agglutination tests difficult of interpretation in the initial diagnosis of the cases.

In some of the cases there were difficulties in diagnosis arising out of persistent negative findings. For example, the first case, a military officer, was admitted to hospital on 1st June. His illness ran a febrile course for seven days thereafter. Blood and culture and urine and faeces examinations were all negative. He had been inoculated in 1940 and the blood agglutination test taken on 2nd June was H—1 in 100 ; O—nil ; and on 5th June, H—1 in 250 ; O—nil. On 15th June the result was H—1 in 250. On 19th June he again became febrile, and on 22nd June the agglutination reaction was still H—1 in 250 but the blood culture was positive for *B. typhosus*. The subsequent course of the case was typical. On 26th June the blood agglutination was H—1 in 400 ; O—1 in 100 ; Vi—1 in 20. Rash appeared on 27th June. Typhoid bacilli were found in faeces. This appears to have been a case with a mild initial attack followed by a severe relapse. During his stay in hospital he had not been in any contact, either by staff or otherwise, with the other typhoid cases, but had been kept apart in a separate observation unit.

Similar difficulty in interpretation of laboratory findings caused some delay in the diagnosis of several cases both in Glasgow and in hospitals elsewhere. One case, an assistant engineer, was removed from his home to hospital in Glasgow. The diagnosis was never confirmed, either bacteriologically or otherwise, but he had a febrile



illness lasting for some days. This particular case is not included in the list given because of lack of confirmation. It still remains probable that he was a case of mild typhoid fever.

Up to the date of writing there have been no deaths.

*Age Incidence.*—The outbreak was confined to the younger members of the crew. For example, in the engineers' mess, eight of the cases were in the 20—24 age group and one in the 25—29 group. In these two groups eight out of a total of seventeen persons at risk took typhoid fever.

*Type of Bacillus.*—The bacillus found in all cases was confirmed by Dr. Felix of the Medical Research Council as Phage Type C.

*Summary and Conclusions.*—This was an outbreak of typhoid fever on board ship consisting of eighteen cases, all confirmed bacteriologically. There is strong presumption that the infection was spread by means of food taken on board at a foreign port. Apart from the first wave, there were two subsequent waves confined to one section of the ship and consisting of four cases in all. There were presumably directly infected from a case or cases in the first wave. A search for carriers causing or resulting from the outbreak gave negative results. Several of the cases had been inoculated within the past 3—4 years. The inoculation state on board merchant ships should be more carefully recorded and checked. Systematic re-inoculation is necessary in the younger age groups.

Sanitation in the engineers' mess—bathrooms and lavatories—require careful supervision. Chlorination of water on board ship should be routine so as to obviate any possibility of water requiring even to be considered as an agent in the spread of intestinal infection. In this outbreak the absence of fatal cases is noted. The attainment of this result must, in part, be attributed to previous inoculation. In the diagnosis, the difficulty in obtaining early confirmatory blood tests and agglutination reactions is noted. Some 900 specimens of faeces and urine were examined, and about 175 samples of blood serum for H, O, and Vi agglutinins.

*Medical Attention at the Clyde Anchorages.*—This scheme is still operating and rendering much valuable service. The number of cases

seen was slightly below that of the previous year, and the following table shows the disposal of the cases :—

Disease.	Removed to Hospital.	Sent Home.	Referred to Clinic.	Left on Board.	Died.	Total.
Scarlet Fever ...	2	—	—	—	—	2
Diphtheria ...	5	—	—	—	—	5
Enteric Fever ...	10	—	—	—	—	10
Measles ...	18	—	—	—	—	18
C.S.F. ...	2	—	—	—	—	2
Dysentery ...	3	—	—	—	—	3
Malaria ...	7	—	—	5	—	12
Meningitis ...	2	—	—	—	—	2
Pneumonia ...	19	—	—	1	—	20
Tuberculosis (Pul- monary) ...	11	1	1	1	—	14
Tuberculosis (Other Lesions) ...	—	—	—	1	—	1
Leprosy ...	1	—	—	—	—	1
Chickenpox ...	4	—	—	—	—	4
Mumps ...	9	—	—	—	—	9
German Measles ...	4	—	—	1	—	5
Rheumatic Fever ...	5	—	—	2	—	7
Influenza ...	15	4	—	49	—	68
Scabies ...	10	5	1	63	—	79
Venereal Disease ...	31	10	103	45	—	189
Accidents ...	96	14	96	164	—	370
Other Illnesses ...	311	113	153	841	1	1,419
	<u>565</u>	<u>147</u>	<u>354</u>	<u>1,173</u>	<u>1</u>	<u>2,240</u>

*Ambulance Launches.*—The number of cases removed by the Ambulance Launches increased greatly, rising from 1,631 in 1943 to 3,007 in the present year.

*Examination of Drinking Water.*—Twelve samples of drinking water from on board ship were examined during the year, seven by the City Bacteriologist and five by the City Analyst. The samples were submitted for the following reasons—cases of typhoid fever and gastro-enteritis occurring among members of the crew ; complaints regarding taste ; and requests from owners as to the suitability of the water supply for dietetic purposes. The Bacteriologist reported on one sample as unpotable and two as unsatisfactory on account of a high bacterial count, and the Analyst reported on one sample as of doubtful purity. In each of these instances the water storage tanks were emptied, cleansed, and refilled with fresh water.

*Parrots (Prohibition of Import) Regulations (Scotland), 1930.*—Fourteen vessels arrived with twenty-three birds on board—fourteen budgerigars and nine parrots. With the exception of two budgerigars which were destroyed, all the birds were re-exported.

*Destruction of Rats and Mice.*—The total number of rats destroyed during the year was 9,586—8,768 on ships (8,073 by fumigation and

695 by trapping), and 818 in sheds and other premises adjoining the harbour. Of the 8,065 destroyed by fumigation, 7,851 were found dead after fumigation with HCN, and 222 after fumigation with SO<sub>2</sub>. In addition, 878 mice were destroyed.

Specimens of rats submitted for bacteriological examination numbered 675, none of which was found to be infected with *B. pestis*.

The total number of 9,586 rats destroyed is again an increase over the previous year's total of 8,697, while the average yield per fumigation is 42·7 against 48·8 for last year. The increase of almost 1,000 rats destroyed this year may largely be accounted for by the greater number of fumigations, which exceeded last year's figure by thirty-five. The sex and species of the rats caught by trapping in sheds, stores, and other premises are shown in the following table :—

BROWN RAT.				BLACK RAT.				Total.
R. Norvegicus.		R. Rattus.		R. Alexandrinus.		R. Frugivorus.		
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
127	81	191	108	133	85	57	36	818

The following table shows the details as regards rats destroyed by deratisation of ships :—

	INFECTED PORTS.							NON-INFECTED PORTS.							Total.		
	R.A.		R.R.		R.F.			R.N.		R.A.		R.R.		R.F.			
	M.	F.	M.	F.	M.	F.		M.	F.	M.	F.	M.	F.	M.		F.	
H.C.N.	1074	518	1478	749	772	379	—	—	656	341	888	471	356	169	7851		
SO <sub>2</sub>	...	65	27	34	15	34	15	—	—	10	4	11	7	—	222		
Trapping	63	38	161	75	26	15	2	1	53	41	129	62	19	10	695		
	R.N.=Rattus Norvegicus.							R.A.=Rattus Alexandrinus.									
	R.R.=Rattus Rattus.							R.F.=Rattus Frugivorus.									

R.N.=Rattus Norvegicus.

R.R.=Rattus Rattus.

R.A.=Rattus Alexandrinus.

R.F.=Rattus Frugivorus.

*Fumigation of Ships.*—The number of vessels fumigated by HCN was 187, resulting in the destruction of 7,851 rats. Three ships were fumigated by SO<sub>2</sub>, from which 222 dead rats were recovered. Six ships were dealt with by traps or poison, and 31 rats recovered. Thus 163 ships were deratized and deratisation certificates issued in respect of them. There were also issued 169 deratisation exemption certificates. A further 664 rats were caught on ships not requiring certificates. The total rats destroyed on ships and on shore may be classified as follows :—*Rattus Norvegicus*, 211 ; *Rattus Rattus*, 4,379 ; *Rattus Alexandrinus*, 3,108 ; *Rattus Frugivorus*, 1,888—a total of 9,586 in all.

*Hygiene in Crew Spaces.*—During the year 1,547 nuisances, functional and structural, were discovered during inspection of accommodation on board 384 vessels in the harbour. As was the case last year, almost 75 per cent. of the total number was due to bad housekeeping. In 173 instances vermin (bugs and cockroaches) were found in the crews' quarters. Written intimation was given in 65 and verbal in 373 instances.

The following table illustrates the nuisances discovered :—

				Number on Coasters.	Number on Overseas.	Totals.
<i>Forecastles (Functional Neglect)—</i>						
Paintwork, etc., Dirty	...	...	...	13	78	91
Floors and Woodwork Dirty	...	...	...	11	149	160
Tables and Benches Dirty	...	...	...	14	150	164
Alleyways Dirty	...	...	...	4	30	70
Food Lockers Dirty	...	...	...	8	86	94
Verminous Condition	...	...	...	9	164	173
Galleys Dirty	...	...	...	3	9	12
Scuppers Choked	...	...	...	2	21	23
Accumulation of Rubbish	...	...	...	3	98	101
Beds and Bedding Dirty	...	...	...	2	1	3
				69	786	855
<i>Water-Closets and Wash-Places (Functional Neglect)—</i>						
Troughs or W.C. Basins Foul or Choked	...	...	...	19	119	138
Floors or Woodwork Dirty	...	...	...	3	67	70
Paintwork Dirty	...	...	...	—	41	41
Scuppers Choked	...	...	...	—	28	28
Flushing Apparatus Defective	...	...	...	4	24	28
				26	279	305
<i>General—</i>						
Drinking Water Tanks to Cleanse	...	...	...	2	20	22
Accumulation of Garbage on Deck	...	...	...	—	120	120
Gear Stored in Sleeping Accommodation	...	...	...	5	1	6
Bilges require Cleansing	...	...	...	—	—	—
				7	141	148
<i>Forecastles (Structural Defects)—</i>						
Ports Defective	...	...	...	2	46	48
Deck-heads Leaking	...	...	...	1	32	33
Heating Apparatus Defective	...	...	...	5	26	31
Hawse Pipes Defective	...	...	...	—	—	—
Floors Broken or Defective	...	...	...	—	13	13
Condensation	...	...	...	—	7	7
Lighting Defective	...	...	...	—	—	—
Ventilation Defective	...	...	...	2	7	9
Food Locker Doors Broken	...	...	...	1	28	29
Bulkheads Defective	...	...	...	—	—	—
Steam Pipes Leaking	...	...	...	—	—	—
Side Plates Defective	...	...	...	—	—	—
				11	159	170
<i>Water-Closets and Wash-Places (Structural Defects)—</i>						
W.C. Seats Missing or Broken	...	...	...	1	38	39
Doors Broken or Defective	...	...	...	1	9	10
W.C. Basins Broken	...	...	...	—	21	21
Lighting Defective	...	...	...	—	2	2
Ventilation Defective	...	...	...	—	1	1
				2	67	69
				115	1,432	1,547



*Rags, Hair, Hides, and Bones.*—The following table shows the importation of rags, hair, hides, and bones, with source of origin and number of shipments :—

Source of Origin.	No. of Ships.	Rags Bdles.	No. of Ships.	Hair (Various) Bdles.	No. of Ships.	Hides (Various) Bdles.	No. of Ships.	Bones Bags.
United States ...	—	—	2	518	—	—	—	—
South America ...	—	—	3	604	6	8,005	3	14,846
Australia and New Zealand ...	1	9	—	—	4	2,752	—	—
India ...	—	—	5	284	7	3,098	12	20,697
Africa ...	—	—	—	—	5	1,143	2	841

*Anthrax.*—Thirty specimens of dry-salted goatskins from five consignments ; 38 of dried cattle hides from six consignments ; 11 of wet-salted cattle hides from two consignments ; one of bone sinews and one of dried hide cuttings, each from one consignment ; and nine of cow-tail hair from three consignments, were submitted to the City Bacteriologist who reported the presence of *B. anthracis* in eight specimens of dry-salted goatskins and three of dried cattle hides.

The infected specimens were from six different consignments, the eight goatskins being from three shipments from India, while the dried cattle hides were two from two shipments from South America and one from one consignment from South Africa.

No cases of anthrax occurred among the persons engaged in the discharge of the infected hides, etc.

*Food Inspection.*—There were submitted to the City Analyst 208 samples of imported foodstuffs and fourteen samples were submitted to the City Bacteriologist for examination. A summary of the samples examined by the Analyst is to be found at the end of this section. The fourteen samples submitted to the Bacteriologist were butter from New Zealand, dried fruits from California, oranges from Jaffa, dried egg powder from New York, frozen fish from Canada, and frozen meat from the Argentine.

There is nothing calling for special comment this year among the imported foodstuffs condemned at the Port. The total weight condemned amounted to 31,106 cwts., 2 qrs.—2,851 cwts. of which consisted of ships' stores.

*Unsound Food Regulations.*—The following table shows the character and quantity of the foodstuffs imported direct during 1944 (but

does not include coastwise or transhipped cargoes), a percentage of which was examined by the food inspectors before removal :—

Article.	Weight.		Article.	Weight.	
	Tons.	Cwts.		Tons.	Cwts.
Apples ... ..	1,201	17	Lard ... ..	18,658	1
Acids ... ..	1,019	11	Lemons ... ..	1,971	14
Apricots ... ..	507	8	Meats (Canned) ...	30,499	3
Bacon ... ..	28,236	15	Milk (Canned) ...	12,317	5
Butter ... ..	6,666	—	Milk (Dried) ...	14,258	1
Beans ... ..	5,317	9	Nuts ... ..	47,110	—
Cheese ... ..	28,864	19	Oils (Various) ...	8,066	18
Coffee ... ..	138	16	Onions ... ..	3,490	11
Cocoa ... ..	8	—	Oranges ... ..	35,330	3
Condiments ... ..	189	1	Peas ... ..	3,082	15
Egg Powder ... ..	11,379	3	Peaches (Canned) ...	2,008	6
Fish (Canned, etc.) ...	10,275	7	Pears (Canned) ...	318	9
Fruits (Canned) ...	3,070	15	Pineapples (Canned)	1,663	16
Fruits (Dried) ... ..	22,252	6	Rice ... ..	58	15
Fruit Juices ... ..	2,413	19	Sugar ... ..	97	6
Fruit Pulp ... ..	448	13	Sundries ... ..	3,670	2
Farinaceous Foods ...	9,960	14	Tea ... ..	21,197	18
Flour (Various) ...	140,825	17	Tomatoes (Canned) ...	2,282	11
Ham ... ..	9,696	17	Vegetables (Canned,		
Honey ... ..	27	18	etc.) ... ..	827	3
Jams and Jellies ...	787	11	Wheat ... ..	192,271	6
Total Weight—682,468 tons, 19 cwt.					

The following foodstuffs were found unfit and disposed of to the satisfaction of the Medical Officer of Health :—

Article.	Weight.		Article.	Weight.	
	Cwts.	Qrs.		Cwts.	Qrs.
Acrated Waters ...	85	—	Milks (Canned) ...	72	2
Biscuits ... ..	164	—	Milk (Dried) ... ..	122	—
Beans ... ..	5	—	Molasses ... ..	—	3
Egg Powder ... ..	57	—	Margarine ... ..	—	2
Fruits (Dried) ... ..	1,280	3	Nuts (Groundnut		
Fruits (Canned) ...	108	3	Kernels) ... ..	16,000	—
Fruit Juice ... ..	—	2	Oranges ... ..	2,898	—
Fish (Canned, etc.) ...	41	3	Pickles ... ..	1	3
Flour ... ..	4,241	1	Peas ... ..	1	—
Fats ... ..	270	2	Potatoes ... ..	120	—
Jams ... ..	—	3	Tea ... ..	624	2
Lard ... ..	2,215	2	Tomatoes (Canned) ...	7	2
Meats (Canned) ...	219	3	Wheat ... ..	160	—
Meats (Frozen and			Yeast ... ..	2	3
Pickled) ... ..	2,404	3			
Total Weight—31,106 cwts., 2 qrs.					

(Note.—2,851 cwts. were from ship's stores.)

## SAMPLES OF FOODSTUFFS SUBMITTED TO THE CITY ANALYST.

Article.			Fit for Human Consumption.	Unfit for Human Consumption or not in conformity with Regulations.	Remarks.
Apples ... ..	...	...	2	—	
Biscuits ... ..	...	...	—	1	Mouldy and weevily—164 cwts. condemned and released for animal feeding.
Butter ... ..	...	...	16	1	River water damage—one box of 56 lbs. weight sent for re-conditioning.
Cereals (Rolled Oats) ...	...	...	3	—	
Corn Starch ... ..	...	...	5	—	
Cheese ... ..	...	...	9	—	
Egg Powder ... ..	...	...	8	—	
Fats (Various) ... ..	...	...	8	—	
Fish (Canned, etc.) ...	...	...	20	1	Frozen fish—infected with black mould. 17 $\frac{3}{4}$ cwts. condemned and destroyed.
Fruits (Dried) ... ..	...	...	35	12	River water damage—1,234 cwts. of currants and raisins, and 17 $\frac{1}{2}$ cwts. of dried apples condemned and released for animal feeding.
Fruit Pulp ... ..	...	...	6	—	
Grape Juice ... ..	...	...	2	—	
Ham and Bacon ... ..	...	...	6	—	
Jams and Jellies ... ..	...	...	4	—	
Lard ... ..	...	...	3	2	Contaminated with fuel oil—2,215 $\frac{1}{2}$ cwts. condemned and released for technical purposes.
Lemon Juice ... ..	...	...	1	—	
Meats (Canned) ... ..	...	...	11	—	
Milks (Canned) ... ..	...	...	8	—	
Milks (Dried) ... ..	...	...	7	1	Barrel marked Milk-powder. Analysis showed contents to be oxalic acid.
Oils (Various) ... ..	...	...	3	—	
Onion Powder ... ..	...	...	2	—	
Oranges ... ..	...	...	4	—	
Orange Juice ... ..	...	...	5	1	Excess of SO <sub>2</sub> . For cordial making.
Potatoes ... ..	...	...	—	1	Contained an excess of Solanin—283 mgs. per 100 grammes. 120 cwts. condemned.
Strawberry Pulp ... ..	...	...	2	—	
Tea ... ..	...	...	12	—	
Tomatoes (Canned) ...	...	...	1	—	
Yeast ... ..	...	...	3	2	Stale—deficient in raising qualities. 2 $\frac{1}{4}$ cwts. condemned.

*Imported Food Regulations.*—The Veterinary Surgeon has reported on the quantities of meat examined under these Regulations, and states that the following were condemned :—

Beef, Quarters ... ..	246	Pork, Sides ... ..	2
„ Boxes ... ..	1	„ Bags ... ..	2
„ Bags ... ..	6½	„ Boxes ... ..	3
„ Cuts ... ..	5	„ Cuts ... ..	13
Mutton and Lamb, Carcases ...	22	„ Boxes, Trimmings ...	34
„ Quarters ...	56	Bacon, Dressings, lbs. ...	100
„ Cuts ...	30	Offal, Ox Livers, bags ...	11
		„ Ox Cheeks ... ..	4
		„ Ox Hearts ... ..	1

*Insect Infestation.*—The activities of the Infestation Branch of the Ministry of Food in the extermination of food insect pests were continued throughout the year and twenty-two ships were treated either wholly or in part with hydrocyanic acid in quantities varying from 8 ozs. to 12 ozs. for periods of exposure from five hours to twenty-five hours depending on the degree of infestation and the time available. In eleven instances the vessels were deratised at the same time and certificates granted.

Some 22,000 tons of dried fruit were fumigated in barges with “ Etox ” (Ethylene Oxide ( $C_2H_4O$ )).

*Sanitation at the Docks.*—The type of nuisance occurring in the Dock this year is similar to those enumerated in last year's Report. Written intimation was sent to the Trustees in all cases.

*Latrine Accommodation.*—The position with regard to modernisation of the accommodation in the Harbour is still unsatisfactory and the process of replacement is slow, there being only one new latrine shelter of modern design constructed during the year.



## SECTION V.

## HOUSING.

*By Dr. W. A. Horne.*

Housing remains the largest public health problem in the city in spite of the efforts of the local authority and the Housing Department. During 1944, 484 houses were completed by the Corporation, and although the Department of Health for Scotland have lifted all restrictions on house building, the absence of adequate supplies of materials and labour is severely limiting the output of new houses. Labour and materials are still required for 5,588 houses already fully planned, and the number of houses which the Housing Department hope to complete during 1945 under present conditions is not likely to exceed the 1944 figure. The following table shows the number of houses completed during the past seven years :—

1938	...	2,936	1942	...	1,124
1939	...	2,227	1943	...	931
1940	...	980	1944	...	484
1941	...	791			

The Government propose to switch from temporary to permanent house building, and the Department of Health for Scotland hope that 20,000 permanent houses will be built or building in Scotland at the end of the first year after the war in Europe, and a further 30,000 at the end of the second year. The Housing Department have built up an organisation during the past year which will be capable of producing an increasing number of houses in the immediate post-war period, provided labour and materials are forthcoming both for their housing projects and for the extension of the water and other services. The following table gives the proposed post-war programme for permanent houses provided additional suitable sites are acquired for the third and fourth years' programmes :—

		New Methods Prefabricated (i.e. Foamed Slag, Timber, Steel, etc.).		
Year	Traditional Methods			Total.
First ...	3,500	1,500		5,000
Second ...	4,000	3,000		7,000
Third ...	5,000	5,000		10,000
Fourth ...	5,000	5,000		10,000

In addition to the building of permanent houses, the Government have contracted to supply the Corporation with 2,500 temporary

houses, and it was expected that 1,236 of the Phoenix, Arcon, and other types would have been supplied by midsummer 1945. The Housing Committee were not prepared to accept the Phoenix type as put forward by the Ministry of Works and Planning unless certain alterations were carried out. These alterations included the replacement of the asbestos-cement corrugated wall sheet by 3 in. foamed slag blocks, the provision of stronger internal partitions, and of adequate foundations. These proposals were accepted by the Government, and the Phoenix houses now being supplied to Glasgow conform to the improved standard. Up to date (July, 1945) 258 temporary houses are in the course of erection. The Government have now notified the Corporation of the proposed delivery to Glasgow of 220 Arcon type and 186 Tarron type. Every effort is being made by the Local Authority to find sites for temporary structures without encroaching on the ground allocated to permanent building, and, if need be, at the expense of open spaces.

A quota of the 30,000 American houses of the T.V.A. type purchased by the Ministry of Works and Planning has been allocated to Glasgow. The design of these houses resembles the standard British temporary house, but the external walls are composed of a compressed wood-pulp sheet or of similar materials. A deputation visited London to view the only example of this type erected in Britain, and doubt was expressed as to the ability of the external walls to stand up to the climate in south-west Scotland.

The Housing Committee have also studied all possible alternative methods of building houses. A visit was paid by the Sub-convenor of the Housing Committee, the Town Clerk Depute, and the Director of Housing to Northolt and to other areas in England to examine various types of house construction, including the Orlit, the Braithwaite, the Beaurete, the Keyhouse Unibuilt, and the British Iron and Steel Federation steel house. The Corporation decided to investigate the possibilities of the above five types being adapted for use in the city, and the Government are to be asked to permit the placing of orders with these firms. In addition, five other types of construction were considered—the timber house, the Airey, the Stuart, the new Atholl, and the Weir "Quality." In the latter two types, steel is used as external cladding. A site has been allocated in the "Garscube Additional" Scheme for the erection of examples of the different types, and up to date the Housing Committee have contracted for the erection of 60 Atholl houses and one block of four houses of the Stuart design.

The type of construction developed by the Corporation—the foamed slag house—is likely to come into production during the coming year. A factory is being built at a cost of approximately £39,000 in the east of the city, and when completed it is expected to give a minimum yearly output of 2,000 houses.

In an endeavour to conserve building labour and materials, repair work in all types of buildings of over £10 per annum has now to be licensed, and the issue of licenses has been delegated to the Housing Department. In addition the local authority has been given the power to issue certificates of essentiality for all work costing over £300. These certificates assist in the procuring of licences for essential materials.

On the other hand, house property is steadily deteriorating, and the size of the jobbing labour force and of the necessary materials is quite inadequate to carry out the essential repairs. Even the clearing of choked drains and similar urgent work are being unduly delayed by the scarcity of skilled tradesmen. In general, house property in Glasgow, and especially the dwellings of the poorer section of the community, are in need of extensive repairs. In some cases disrepair has reached such a stage that the owner has deserted the property rather than attempt to carry out the repairs.

The number of dwelling-houses which have deteriorated to the extent of becoming dangerous has increased to 221 during 1944 and to 119 during the first six months of 1945. The local authority have done what they can to find alternative accommodation for the displaced tenants, and during the period 1st September, 1939, to 14th June, 1945, 340 families have been rehoused by the Corporation from buildings condemned by the Dean of Guild Court as dangerous.

Another sign of housing disrepair is the number of tenants making application for certificates under the Rent and Mortgage Interest Restrictions Acts, 1920-39, during the past years. The following table shows the number of applications made from 1938 up to the first six months of 1945:—

1938	...	...	35	1942	...	...	...	3
1939	...	...	29	1943	...	...	...	51
1940	...	...	3	1944	...	...	...	83
1941	...	...	8	1945 (first six months)...				247

Of the 83 applications for certificates during the year 1944, 72 were granted, 10 were refused, and one was cancelled. There were 19 applications by house factors for reports, all of which were granted.

During the year 19 houses were represented by the Medical Officer of Health to the Housing Committee as uninhabitable.

During January, 1944, the Corporation gave applicants for new houses an opportunity to renew their applications, and in the following month the City Improvements Department were open to receive new applications. The following table shows the position at the end of February, 1944 :—

(a) Applications—					
Renewed applications	...	...	...	...	28,452
New applications lodged	...	...	...	...	39,361
					<hr/> 67,813 <hr/>
(b) Categories—					
Homeless cases	...	...	...	...	24,283
Overcrowded cases	...	...	...	...	28,682
About to be married	...	...	...	...	3,079
Non-urgent	...	...	...	...	11,769
					<hr/> 67,813 <hr/>
(c) Size of houses required—					
Three-apartment	...	...	...	...	47,922
Four-apartment	...	...	...	...	6,773
Five-apartment	...	...	...	...	1,349
					<hr/> *56,044 <hr/>

\* Non-urgent cases excluded.

Note.—8,000 application schedules still to be returned.

In 1944 the Corporation revised the letting regulations and agreed that the degree of need of the applicants was to be the only determining factor, but that there should also be a residential qualification requiring that the prospective householder or his wife should have resided within the city for a period of ten years before being provided with housing accommodation by the Corporation. In future there are to be two categories: (a) overcrowded families, including the homeless and overcrowded tuberculous families, and (b) newly married and homeless. Approximately 90 per cent. of the available accommodation is to be allocated to the first category and 10 per cent. to the second. Of all the houses allocated to category (a), 10 per cent. is to be reserved for the rehousing of tuberculous families recommended by the Medical Officer of Health.

Statistics of decrowding in relation to houses vacated by families removed to new houses are shown in a table which follows. Out of 15,277 houses inspected subsequent to the transfer of the occupants to Corporation houses since the passing of the Housing (Scotland)



Act, 1935, 19·8 per cent. were found to be again overcrowded, compared with 19·5 per cent. in 1943.

With regard to the rehousing of tuberculous families, 391 recommendations were made to the City Improvements Department during 1944, of which 38 families have since been rehoused. In addition, 128 families recommended in previous years were rehoused in 1944, making in all 166 for the year. This compares with a total of 146 families rehoused in 1943.

The following table summarises the more important aspects of public health operations under the Housing Acts :—

#### DECROWDING OPERATIONS.

##### CONDITION OF VACATED HOUSES SINCE THE COMING INTO FORCE OF THE HOUSING (SCOTLAND) ACT, 1935.

Size of House.	No. of Houses inspected.	Over-crowding removed.	Over-crowding reduced.	Over-crowding unchanged.	Over-crowding increased.
One apartment ... ..	3,477	2,579	771	75	52
Two apartments ... ..	9,165	7,331	1,310	224	300
Three apartments ... ..	2,382	2,123	159	31	69
Four apartments and up ...	253	223	20	2	8
Total ... ..	15,277	12,256	2,260	332	429
		80·2%	14·8%	2·2%	2·8%

#### HOUSING ACTS.

##### NUMBER OF HOUSES REPRESENTED SINCE 1923 AND ACTION TAKEN.

Year.	Number of Houses represented.			Number of these Houses actually closed in each Year.		
	Under Slum Clearance Schemes	Under Closing and Demolition Orders	Together.	Slum Clearance Schemes.	Closing and Demolition Orders.	Together.
1917-1937 ... ..	8,635	8,278	16,913	8,545	7,605	16,150
1938 ... ..	—	467	467	89	914	1,003
1939 ... ..	36	275	311	2	347	349
1940 ... ..	—	157	157	—	213	213
1941 ... ..	—	52	52	—	74	74
1942 ... ..	—	4	4	—	13	13
1943 ... ..	—	46	46	—	47	47
1944 ... ..	—	19	19	—	19	19
Totals ... ..	8,671	9,298	17,969	8,636	9,232	17,868

## HOUSES DEALT WITH UNDER CLOSING AND DEMOLITION ORDERS.

			NUMBER OF HOUSES.					
Year.			No. of Houses repre- sented.	Closed.	Demolished.	Converted to Business Premises	Rendered Fit and Occupied.	Still Occupied
1924-1930—								
(Under 1925 Act)	...	...	448	75	366	7	—	—
1930—								
(Under 1930 Act)	...	...	127	34	85	—	8	—
1931-1935	...	...	6,073	1,731	4,217	43	43	39
1936	...	...	402	229	162	10	1	—
1937	...	...	1,228	295	911	22	—	—
1938	...	...	467	69	396(i)	11	—	—
1939	...	...	275	166(ii)	148(iii)	1	—	—
1940	...	...	157	50	83	—	—	24
1941	...	...	52	43	9	—	—	—
1942	...	...	4	—	4	—	—	—
1943	...	...	46	37	9	—	—	—
1944	...	...	19	—	19	—	—	—
Totals			9,298	2,729	6,409	94	52	63

Includes houses dealt with by city after boundary extension.

(i)=9.

(ii)=2.

(iii)=38.

## INSPECTION OF HOUSING SCHEMES.

*(a) Condition as to Cleanliness.*

The number of houses in the various rehousing schemes reported on is 14,769.

Number of tenants under supervision at 1st January, 1944	14,747
Of which evicted or left owing rent during 1944	26
Of which left voluntarily during 1944 ...	177
	203
Of which remain at 31st December, 1944 ...	14,544
Number of tenants obtaining entry during 1944	206
Of which evicted or left owing rent during 1944	—
Of which left voluntarily during 1944 ...	—
Of which remaining at 31st December, 1944 ...	206
Total number of tenants remaining as at 31st December, 1944	14,750

During 1944 the nurse-inspectresses made 67,301 primary visits, the condition of the houses being recorded at the time of the visits as "Clean" 41,406, "Fair" 24,614, and "Dirty" 1,281. Further visits numbering 3,051 were made to the less satisfactory tenants.

At the beginning of the year 14,747 households were under supervision, and at the end of the year 14,750—an increase of three. The number of new tenants was 206. There were 203 removals, or 1·4 per cent. of the total occupancies.

The changes in the condition of the 14,544 households under supervision throughout the year are as follows :—

				Condition at end of year.			Totals.	Group Percentages.
				Clean.	Fair.	Dirty.		
Condition at beginning of Year—								
Clean	...	...	...	8,765	346	1	9,112	62·7
Fair	...	...	...	391	4,684	48	5,123	35·2
Dirty	...	...	...	3	88	218	309	2·1
				<u>9,159</u>	<u>5,118</u>	<u>267</u>	<u>14,544</u>	<u>100·0</u>
Group Percentages	...	...	...	63·0	35·2	1·8	100·0	—

A similar table is given for the 206 tenants who obtained entry during the year and who were still resident in the schemes at the close.

				Condition at end of year.			Totals.	Group Percentages.
				Clean.	Fair.	Dirty.		
Condition at date of Entry—								
Clean	...	...	...	71	35	—	106	51·4
Fair	...	...	...	14	77	1	92	44·7
Dirty	...	...	...	3	2	3	8	3·9
				<u>88</u>	<u>114</u>	<u>4</u>	<u>206</u>	<u>100·0</u>
Group Percentages	...	...	...	42·7	55·3	2·0	100·0	—

The condition prior to removal of the houses occupied by families who were evicted or left owing rent and by tenants removing voluntarily during the year is compared in the following table :—

				Tenants Evicted during 1944.		Tenants Removing Voluntarily during 1944.	
				No.	Percentages.	No.	Percentages.
Condition at date of Entry—							
Clean	...	...	...	6	23·1	117	66·1
Fair	...	...	...	16	61·5	55	31·1
Dirty	...	...	...	4	15·4	5	2·8
				<u>26</u>	<u>100·0</u>	<u>177</u>	<u>100·0</u>

Of the 14,750 houses occupied at the end of the year, 9,246 were regarded as "Clean," 5,233 as "Fair," and 271 as "Dirty," repre-

sending 62.7 per cent., 35.5 per cent., and 1.8 per cent. of the total. The corresponding percentages for occupancies at the end of 1943 were 62.6 per cent., 35.2 per cent., and 2.2 per cent.

(b) *Bug Infestation.*

The total number of houses in which evidence of the presence of bed bugs was found was 157, or 1.1 per cent., which is the lowest percentage recorded. Analysis of this figure shows that only a "trace" of bed bugs was found in 21 houses, or 0.1 per cent., compared with 0.2 per cent. in 1943. In this group of houses only old hatched eggs or bug casts but no living bugs or eggs were found in the beds or on furniture, pictures, or other household belongings. In 26 houses, or 0.2 per cent., compared with 0.3 per cent. in 1943, a "medium" degree of infestation was found, and by this is meant that living bugs or eggs were found in beds or on furniture, pictures, or other household belongings but not in the structure of the building itself. This condition is readily remedied by the tenants by applying the ordinary methods of household cleansing under the direction of the nurse-inspectresses. In 110 houses, or 0.8 per cent., the same percentage as in 1943, a "serious" degree of infestation was found. In these houses living bugs or eggs or both were found in beds, on furniture, or on picture rails, skirting, or door facings. The eradication of bugs in these houses requires the co-operation of the tradesmen of the Maintenance Section of the Housing Department, whose procedure is to remove the infested woodwork from walls and apply the blow-lamp directly or a contact insecticide. In the great majority of these houses infestation was detected at a fairly early stage by the nurse-inspectresses. This is very important, because it reduces to a marked degree the amount of interference with structures which has to be carried out by tradesmen. In no houses throughout the year was fumigation by a lethal gas adopted.

The table submitted herewith shows the progress made during the past eleven years in the prevention of bug infestation, which has fallen from 10.7 per cent. in 1934 to 1.1 per cent. in 1944. It should be noted that serious infestation has fallen during that period from 7.1 per cent. to 0.8 per cent. throughout the rehousing schemes. This progress is further proof that the preventative system which has been practised in Glasgow during the past eighteen years is thoroughly sound, as it depends for its success upon the cleanliness of tenants and the supervision of them by the nurse-inspectresses, who are specially trained in the work of prevention of infestation by the bed bug.



## PROGRESS OF BUG INFESTATION PREVENTION IN REHOUSING SCHEMES.

Year.			Number of Houses Inspected.	Number of Houses in which Bed Bugs were found.				Percentage of Total Number of Houses			
				Trace.	M.I.	S.I.	Total.	Trace.	M.I.	S.I.	Total
1934	...	...	8,670	104	210	612	926	1.2	2.4	7.1	10.7
1935	...	...	10,576	218	368	378	964	2.1	3.5	3.6	9.2
1936	...	...	12,803	220	296	295	811	1.7	2.3	2.3	6.3
1937	...	...	13,676	253	165	304	722	1.8	1.2	2.2	5.2
1938	...	...	14,416	138	69	240	447	0.9	0.5	1.7	3.1
1939	...	...	14,609	79	62	168	309	0.5	0.4	1.2	2.1
1940	...	...	14,669	55	75	185	315	0.4	0.5	1.2	2.1
1941	...	...	14,731	51	65	94	210	0.3	0.4	0.7	1.4
1942	...	...	14,751	34	61	121	216	0.2	0.4	0.8	1.4
1943	...	...	14,769	25	51	120	196	0.2	0.3	0.8	1.3
1944	...	...	14,769	21	26	110	157	0.1	0.2	0.8	1.1

Trace—Trace of Bugs.

M.I.—Medium Infestation.

S.I.—Serious Infestation.

## SECTION VI.

## BACTERIOLOGICAL LABORATORY.

The specimens submitted and reported upon in 1944 numbered 63,921, the figure for the previous year being 55,278. The sources of the specimens were Public Health Department (45,633), Medical Practitioners (15,388), other Local Authorities (86), and H.M. and Allied Forces (2,814). The category "Medical Practitioners" comprises private practitioners (the majority) and certain institutions in the City other than those of the Corporation.

**DIPHTHERIA.**—During the year 10,298 swabs were examined for the presence of the diphtheria bacillus. The specimens were derived from patients, from contacts, and from children as a preliminary to admission to Country Homes; 9.57 per cent. of the suspected cases and 2.3 per cent. of the contacts were found positive.

*Biological and Cultural Tests.*—During the year 58 diphtheria-like cultures were examined; culturally 47 of these were *B.diphtheriae* and 11 were other corynebacteria. Forty-one strains of *B.diphtheriae* were examined biologically; of these 31 were found to be virulent and 10 non-virulent.

*Types of Diphtheria Bacilli.*—The type distribution among 970 strains examined was Gravis 538, Intermedius 321, Mitis 100. The percentage incidence of "Gravis" strain fell from 61.5 in 1943 to 55.4; this fall was not constant over the year but expressed a general downward trend. Of the other types *B.diphtheriae intermedius* showed a relatively greater percentage increase than *B.diphtheriae mitis*. The epidemiological significance of the variations in type incidence of diphtheria bacilli within the City has been clearly expressed by Dr. H. S. Carter in a paper on "Diphtheria in Glasgow 1934-42" published in the *Journal of Hygiene* in April.

**ENTERIC FEVERS.**—*Examination of Blood.*—Agglutination tests were carried out on 365 specimens of which 95 were positive to one or more antigens of the Enteric group. Some of these tests were purely diagnostic in cases of suspected typhoid and paratyphoid fever, but a considerable number were done to assist in the detection of possible typhoid carriers as in the "Mooltan" outbreak. Full use was made

of our present-day knowledge of the persistence of the "Vi" antibody in the blood-serum of people excreting typhoid bacilli and by eliminating from suspicion all people who did not possess it the number of possible vectors was very considerably reduced and the bacteriological investigation made speedier and more effective.

"*Mooltan*" *Epidemic*.—This was a small outbreak of typhoid fever occurring among the personnel of a ship coming from abroad. To investigate the possible presence of a "carrier" among the ship's company 173 Widal tests were carried out and a very large number of excretal specimens examined; no "carrier" of *B.typhosus* was discovered, but one healthy "carrier" of *B.dysenteriae* Sonne was found. In all, from contacts and patients, 499 stools and 411 urine were examined. From eight patients with typhoid fever *B.typhosus* was isolated on 17 occasions from faeces and on three occasions from urine. From suspected cases who later were found to be suffering from conditions other than typhoid fever, five blood cultures were examined with negative results. The introduction of the infection was eventually traced to a foreign port and the epidemic shown to be due entirely to case to case infection.

*Examinations of Excretions*.—The total number of specimens examined from cases, convalescents, contacts, and carriers was 1,696 (faeces 931, urine 765). Of these 36 were positive for *B.typhosus* and 9 for *B.paratyphosus* B.

FOOD POISONING.—With reference to cases of illness, 59 specimens were submitted, and in 11 of these food poisoning organisms of the *Salmonella* group were found to be present.

DYSENTERY.—7,594 specimens in all were examined, including contacts and repeats for clearance. The Flexner type of dysentery bacillus was isolated from 516 specimens, Sonne from 1,002 specimens, Newcastle from 108 specimens, Shiga from 2 specimens, and Schmitz from one specimen. The organisms were isolated on numerous occasions from individuals showing little or no clinical symptoms and the difficulties surrounding the administrative control of dysentery, particularly among young children in Day Nurseries, was fully confirmed by such bacteriological findings. The enormous increase in the number of faecal specimens examined was partly an expression of the increase of diarrhoeal diseases within the City and partly evidence of the success of the newer culture media Desoxycholate Citrate Agar, compared with

the time-honoured MacConkey in the detection of small numbers of dysentery bacilli in the excreta of contacts and carriers.

*Newcastle Dysentery*.—This is caused by a member of the Flexner group of organisms and was last reported in Glasgow in 1942. In September, 1944, four cases occurred within 10 days of each other; these cases were entirely unconnected and came from widely separated areas of the City. Since that time the infection has been distributed widely. In some instances it has been possible to trace the development of secondary foci of infection but in others the disease appears to have arisen spontaneously. In practically every case, however, the disease has been very mild, and the spread by symptomless carriers can readily be envisaged.

*Gastro-enteritis—Epidemic in Children*.—In addition to a very large number of routine faeces examinations a certain amount of preliminary research work on this problem was carried out. Forty-five specimens, mainly of autopsy material, were examined and 104 special tests carried out. The information obtained will be useful in any subsequent full-scale investigation of the condition.

GLANDULAR FEVER.—Forty-four specimens were submitted for the Paul-Bunnell test, with nine positive results.

ANTHRAX.—Eighty-seven samples of materials, including cow-tail hair, ox hides, and goatskins, were examined biologically for the presence of the anthrax bacillus. Nine goatskins, two hide samples, and one sample of hair gave positive results.

\*TUBERCULOSIS—*Human*.—Specimens of sputum from cases of suspected pulmonary tuberculosis were examined microscopically for tubercle bacilli. The majority, 4,274 of these specimens came from the tuberculosis dispensaries in the City, while 1,651 were submitted by medical practitioners and 38 by H.M. and Allied Forces. From patients with suspected extra-pulmonary tuberculosis materials such as urine, cerebro-spinal and pleural fluids, pus from gland abscesses, and stomach washings were reported on, largely after biological tests.

VENEREAL DISEASES.—The number of tests performed in 1944 in connection with venereal disease was 30,623. This includes 13,942 Wassermann tests and 14,964 Kahn tests on blood, and 264 Wassermann tests on cerebro-spinal fluid. In 2,694 instances both tests were carried



out on individual specimens. Other examinations comprised 1,184 on exudates for the presence of Gonococci, 257 on specimens of blood for Gonococcus Complement Fixation, 7 on smears for *Treponema pallidum*, and 5 on specimens of cerebro-spinal fluid for the Colloidal Gold Reaction. The sources of the specimens for the Wasserman test were as follows :—

Public Health Department	...	...	...	9,692
Medical Practitioners of the City	...	...	...	1,155
Local Hospitals and Institutions	...	...	...	1,492
H.M. and Allied Forces	...	...	...	1,867
				<hr/> 14,206 <hr/>

OPHTHALMIA NEONATORUM.—From suspected cases 761 specimens of exudate were submitted, mainly by Child Welfare Centres. Since repeated examinations are occasionally made to test the result of treatment, the number stated does not correspond to the actual number of cases. Gonococci were found in 37 specimens.

STREPTOCOCCAL INFECTIONS.—Examinations were here confined to sporadic instances of suspected infection, as in scarlet fever contacts, nurses commencing training in maternity work, cases of mastoiditis, otitis media, puerperal pyrexia, etc.; 143 examinations were made, with 9 positive results—2 puerperal and 7 scarlet fever cases. The sources of specimens were as follows :—

	Health Dept.	Medical Practs.	Ear, Nose, and Throat Hospital.
Scarlet Fever, etc.	46	20	5
Puerperal Fever	35	37	—
	<hr/> 81 <hr/>	<hr/> 57 <hr/>	<hr/> 5 <hr/>

PLAGUE.—During the year 543 rats—247 males, 296 females—were examined for evidence of plague, with negative results. The species of rats examined were—*Mus decumanus* 139, *Mus rattus* 264, and *Mus alexandrinus* 140.

MILK SUPPLY.—The number of samples tested biologically for tubercle bacilli was 916. Tubercle bacilli were detected in the City milk supply in 3·6 per cent. of 416 undesignated samples, and in 2·5 per cent. of designated samples. The hospital milk supplies and the pasteurised milk issued to schools were free from such infection in 205

samples and 158 samples respectively examined. From other Local Authorities 57 samples were received, none of which was tuberculous.

The milk supplies of the City, as well as those supplied to schools—557 samples in all—were, on the whole, similar in bacterial content to those of the previous year. The results found with hospital supplies (233 samples) and with graded milks (403 samples) examined for the Health Department, were similar to those reported for the year 1943.

CITY WATER SUPPLY.—665 samples from the reservoirs and other sources were examined during the year, and reported upon to the Health and Water Departments.

PUBLIC BATHS WATER.—100 samples from nine swimming ponds were examined and reported to the Baths Department, thus providing information upon the effects of filtration and chemical treatment.

BIOLOGICAL LABORATORY.—1,180 biological tests were carried out during the year. These were required chiefly to determine the presence of tuberculous infection in milk supplies and to a less extent to determine the virulence of organisms or to detect pathogenic bacteria in industrial material and human disease.

## SECTION VII.

## FOOD.

*Food Inspection.*—In only one of the numerous cases of alleged food poisoning investigated by the Department during the year was a food poisoning organism discovered, and, as will be observed, this case presents rather unusual features :—

In August all four persons who ate a meal of home-made soup, steamed chicken, and three years' old tinned French beans, sickened within 6 to 36 hours. None was seriously ill. The first case suffered from headache only, one from colic only, one from diarrhoea, and the last from vomiting and diarrhoea. The first case left Glasgow before being bacteriologically examined; the others were so examined as also were four symptomless home contacts. *B.aertryke* was found for periods up to ten days in the stools of two of the cases and of a female contact. She, however, had eaten the remainder of the French beans from a plate which may have been contaminated by other items of the menu. This familiar outbreak had thus two unusual features, namely, the wide range of times of sickening, causing three different days to be given as the dates of onset, and the positive *B.aertryke* report regarding an entirely symptomless person.

Among the other complaints investigated were the following :—

In September three of a family of five persons were affected in varying degree with sickness and diarrhoea after sharing the contents of a tin of salmon and one of them died in hospital. Samples of the salmon were not available for examination and statements as to how long the tin had been opened were conflicting. While the symptoms were consistent with food poisoning the fatal outcome in this instance was probably due to the patient's poor cardiac condition.

In August twenty-two of the twenty-six members of a hospital staff who ate rolled beef brisket at lunch sickened within four to eleven hours, of diarrhoea and severe low abdominal colic. All were fit for duty next day except two, who were unfit for one and three days respectively. The brisket, apparently normal, had been boiled for three hours. Bacteriological examination of the brisket and of four stools proved negative.

Five of a family of ten persons were removed to hospital with a diagnosis of paratyphoid fever, the first on the 21st November, two on the 24th, one on the 25th, and one on the 27th. Four of the cases subsequently showed agglutinins for *B. Gaertner* on serological examination and diagnosis was altered to food poisoning. The symptoms were of gradual onset, diarrhoea, with nausea and abdominal pain. The first to sicken (and the most seriously affected) also suffered from vomiting. The rest of the family remained well and no one connected with the family is known to have had diarrhoea. Bacteriological examination of stools from patients and family were negative. No canned foods or made-up meats had been taken by the family and no article which had not been consumed by all its members. The varying sickening dates are consistent with the introduction of an infection to the household by the first patient, as prior to the day of sickening, this patient had had a meal of pie and peas in a City restaurant. No other cases of illness were reported in connection with these premises.

*Aerated Waters.*—Only two complaints were received—in the one case where a decomposed mouse was alleged to be present in a bottle of beer) the contents were not submitted for analysis, and in the other, where a bottle of lemonade had an unpleasant smell, there was no chemical or microscopical evidence of harmful substances.

## SUMMARY OF OPERATIONS UNDER THE FOOD AND DRUGS (ADULTERATION) ACT; THE MILK AND DAIRIES ACTS; AND ALLIED ACTS AND ORDERS FOR THE YEAR ENDED 31st DECEMBER, 1944.

*The Food and Drugs (Adulteration) Act, 1928.*—During the year there were 101 different kinds of food and drugs examined. Altogether 1,251 formal and 2,098 informal, totalling 3,349, samples were submitted for analysis; 36 (2.88 per cent.) of the formal and 56 (2.67 per cent.) of the informal samples were reported as being adulterated. This is a reduction from last year, the figures of adulteration for formal and informal samples then being 41 (3.19 per cent.) and 64 (3.07 per cent.) respectively. Twenty-eight prosecutions were instituted and twenty-five convictions were obtained. One warranty defence was successful and two cases were deserted. Among the number of cases



dealt with, one was a second offence, four were third offences, and one was a seventh offence. The fines imposed amounted to £103. There were no contraventions regarding the sale of margarine.

### ABSTRACT OF TOTAL SAMPLES EXAMINED DURING 1944.

Article.	* Informal.		Statutory.		Percentage adulterated.		Percentage of Samples taken in each Group to Total.	
	No. Taken.	Non-Gen.	No. Taken.	Non-Gen.	Infor. %	Stat. %	Infor. %	Stat. %
Milk and Cream ... ..	1,623	50	745	17	3.08	2.28	77.37	59.55
Milk Products (Butter, Cheese, etc.) ... ..	16	1	66	—	6.25	—	0.76	5.27
Meats and Meat Food Products ... ..	39	1	152	8	2.56	5.26	1.86	12.15
Cereals, etc. ... ..	80	2	56	2	2.50	3.57	3.81	4.48
Spirituous Liquors ... ..	2	—	5	3	—	60.00	0.09	0.40
Drugs ... ..	91	—	76	3	—	3.95	4.34	6.07
Flavourings and Condiments ... ..	136	—	62	1	—	1.61	6.48	4.96
Miscellaneous Foods ... ..	111	2	89	2	1.80	2.25	5.29	7.12
	2,098	56	1,251	36	2.67	2.88	100.00	100.00

### ABSTRACT OF INFORMAL AND STATUTORY SAMPLES OF SWEET MILK EXAMINED DURING 1944.

Month.	Informal.				Statutory.			
	No. examined.	No. presumed Non-Gen.	Average per-centage Composition.		No. examined.	No. presumed Non-Gen.	Average per-centage Composition.	
			Fat.	Non-Fat.			Fat.	Non-Fat.
January ...	143	4	3.72	8.69	61	—	3.68	8.73
February ...	128	2	3.67	8.74	61	1	3.62	8.78
March ...	146	4	3.56	8.72	59	1	3.69	8.78
April ...	141	7	3.64	8.62	57	2	3.65	8.68
May ...	166	7	3.60	8.76	59	2	3.61	8.77
June ...	152	1	3.61	8.83	67	—	3.54	8.87
July ...	115	4	3.68	8.68	52	2	3.55	8.81
August ...	126	4	3.72	8.63	56	1	3.56	8.62
September ...	106	1	3.94	8.79	66	1	3.87	8.85
October ...	141	8	3.97	8.65	70	2	3.89	8.72
November ...	138	6	3.94	8.75	68	5	3.82	8.70
December ...	120	2	3.88	8.76	69	—	3.85	8.79
	1,622	50	3.74	8.72	745	17	3.69	8.76
		= 3.08%				= 2.28%		

*Artificial Cream Act, 1929.*—There are no manufacturers or dealers in the City registered with the Food and Drugs Authority.

*The Public Health (Preservatives, etc., in Food) Regulations.*—For contraventions of the Regulations eight cases were dealt with in Court compared with a similar number last year. Two samples of gelatine were found to contain copper and arsenic respectively. Each of these is an offence under Part II of the Regulations. The foods in which preservatives were found, together with their nature and amount, are shown in the following table :—

ABSTRACT OF ARTICLES OF FOOD IN WHICH PRESERVATIVES, ETC.,  
WERE FOUND, AND THE NATURE AND AMOUNT, DURING YEAR  
ENDED 31ST DECEMBER, 1944.

Nature of Article.	No. Exam- ined.	No. in which Preservatives, etc., were found.	Nature of Preservative, etc.	Parts per Million Highest.	Lowest.
Apples, Dried ...	12	2	Sulphur Dioxide	224	89
Curry Powder ...	8	1	„	19	
Dessert Mould ...	3	1	„	45	
Figs, Dried ...	8	2	„	96	64
Gelatine ...	14	10	„	896	230
Lime Juice ...	1	1	„	70	
Margarine ...	52	52	Boron	0.12%	0.96°.
Mince ...	21	9	Sulphur Dioxide	928	12
Peaches, Dried ...	2	2	„	1,024	403
Pork Sausage Meat ...	2	1	„	25	
Sausages ...	119	80	„	1,318	12
Sultanas ...	1	1	„	243	
	<u>241</u>	<u>163</u>			

*The Milk (Special Designations) Orders (Scotland), 1936-44.*—Fifty samples of Certified and Tuberculin Tested milk were examined biologically for the presence of tubercle bacilli. None were found positive. Forty-three samples of Standard milk were also examined and one was found tuberculous. This was reported to the Ministry of Health's Veterinary Officer and the milk from the affected herd was meantime pasteurised until the source of the disease was investigated and accounted for. During the year a new designation was added to those already in use, viz. :—"Heat Treated." To qualify to deal in milk of this designation dairymen should have the milk processed in

an approved plant. The milk must also pass a phosphatase and a methylene blue test. There are also conditions of labelling to be observed in its sale and handling. A new method of testing is also introduced for pasteurised milk—a B.coli and a phosphatase test. This cancels the bacterial plate count. Milk, too, can now have been heat treated previously provided it has not been raised to a higher temperature than 173°F. The different grades of designated milk dealt in by dairymen are shown in the following table, along with the average daily quantities sold in the City. The number of producers, dealers, and bottling establishments, licensed in terms of the Milk (Special Designations) Orders, is also included.

						1944	1943	1942
CERTIFIED—								
Producers	...	...	...	...	...	1	—	—
Dealers	...	...	...	...	...	217	222	223
Total Average Daily Sales (Gallons)	...				...	852	663	346
TUBERCULIN TESTED—								
Producers	...	...	...	...	...	7	8	5
Bottling Establishments	...	...	...	...	...	6	6	6
Dealers	...	...	...	...	...	406	407	429
Total Average Dairy Sales (Gallons)	...				...	*2,519	†1,751	‡1,566
STANDARD—								
Producers	...	...	...	...	...	20	20	22
Bottling Establishments	...	...	...	...	...	—	—	—
Dealers	...	...	...	...	...	—	—	—
Total Average Daily Sales (City Producers only) (Gallons)	...	...	...	...	...	1,115	1,044	1,055
PASTEURISED—								
Pasteurising Establishments	...	...	...	...	...	7	8	7
Dealers	...	...	...	...	...	300	299	313
Total Average Daily Sales (Gallons)	...				...	42,445	40,089	34,989
* Includes 891 gallons Tuberculin Tested (Pasteurised).								
†	„	802	„	„	„			
‡	„	409	„	„	„			

Note.—The quantities shown in the table do not include supplies to institutions of milk of Pasteurised standard not sold under that designation.

Samples of the foregoing taken during the year numbered 403. All were submitted to the City Bacteriologist and the City Analyst for examination regarding their conformity with the requirements of the Orders. In the following table the results are set out in detail :—

## RESULTS OF EXAMINATIONS OF DESIGNATED MILKS.

	CERTIFIED. (a) Not more than 30,000 bacteria per ml. (b) No coliforms in 1/10 ml.	TUBERCULIN TESTED (PASTEURISED)		STANDARD.		PASTEURISED.	
		(a) Not more than 200,000 bacteria per ml. (b) No coliforms in 1/100 ml.	(a) Not more than 30,000 bacteria per ml. (b) No coliforms in 1/10 ml.	(a) Not more than 200,000 bacteria per ml. (b) No coliforms in 1/100 ml.	(a) Not more than 30,000 bacteria per ml. (b) No coliforms in 1/100 ml.	(a) Not more than 30,000 bacteria per ml. (b) No coliforms in 1/100 ml.	(a) Not more than 30,000 bacteria per ml. (b) No coliforms in 1/100 ml.
Bacteriological Examination	Number examined ...	68	106	17	132	71	†9
	Number conforming to count and coliform re- quirements.	53	77	12	91	48	—
	Number exceeding count only.	3	6	—	14	23	—
	Number exceeding count and having coliforms present	10	13	2	23	*15	—
	Number conforming to count but having coliforms present	2	10	3	4	*16	†1
	Agar Count { Lowest ... per ml. { Highest ...	1,000 320,000	2,000 1,000,000†	700 55,200	1,500 1,000,000†	2,300 163,000	—
	Presence of { — Coliforms { +	56 12	83 23	12 5	105 27	48 32	—
	Fat { Minimum 3% or over. { Number 3% Number below 3%.	68	106	17	132	80	—
	Average Butter Fat Content	—	—	—	—	—	—
		3.78	3.95	3.75	3.97	3.73	—
Chemical Examination.							

\* As no coliform requirement, only included for reference.

† Examined by the new method of testing introduced for pasteurised milk.



The table shows that 71·71 per cent. of the samples examined were in compliance with the standards required, as compared with 72·07 per cent. last year. Chemical examination showed all the samples to consist of genuine milk.

*Supplies of Designated Milk to Corporation Hospitals, etc.*—Tuberculin Tested and Pasteurised milk only is supplied to Corporation Hospitals and Institutions. This is provided by the Corporation's own farms, by various producers, and by some milk contractors. The approximate average amount delivered daily was 2,297 gallons. Of this, 1,607 gallons were Tuberculin Tested and 690 gallons were Pasteurised. One hundred and ninety-six samples of Tuberculin Tested milk were examined by the plate count, and 141 were found to conform with the requirements. This shows a percentage of 72, which is 5 per cent. higher than last year. Of 34 samples of Pasteurised milk, 15 were found to have satisfactory bacterial counts, while 19 had counts above the prescribed maximum. Two hundred and twelve samples of Tuberculin Tested and Pasteurised milk were examined biologically for the presence of tubercle. None of these was found positive. In addition, 596 samples were chemically examined and four were found to be below the presumptive standard set up by the Sale of Milk Regulations. The average fat content of the milk samples were found to be 3·83 per cent.

*Examination of Ordinary Market Milk for the Presence of Tubercle.*—Samples obtained at City dairies on the arrival of the milk are submitted for biological examination. Three hundred and seven samples were examined in the City Laboratory during the year and 11 were found to be tuberculous. This shows a percentage of 3·58 as against a percentage of 5·45 in the previous year. The following table shows the figures for the year, along with the figures of the two previous years, and shows also the county in which the milk was produced :—

SAMPLES OF PRODUCERS' SUPPLIES EXAMINED FOR THE PRESENCE OF TUBERCLE.

County.	1944		1943		1942	
	No. Examined	No. Tuberculous.	No. Examined.	No. Tuberculous.	No. Examined.	No. Tuberculous.
Ayr ... ..	158	2	171	9	118	8
Bute ... ..	—	—	3	—	—	—
Dunbarton ... ..	12	1	8	—	11	3
Glasgow ... ..	1	—	3	—	5	—
Lanark ... ..	85	5	50	2	85	3
Renfrew ... ..	14	—	59	5	43	—
Stirling ... ..	37	3	18	1	34	3
	<u>307</u>	<u>11</u>	<u>312</u>	<u>17</u>	<u>296</u>	<u>17</u>

*Bacterial Counts of Ordinary Market Milk supplied to the City.*—Three hundred and eleven samples were examined for the number of bacteria present and coliform bacillus. The results are shown in the following table :—

BACTERIAL COUNTS OF ORDINARY MARKET MILK SUPPLIED TO THE CITY.

Number Examined.	Average number of Bacteria per ml.					Coliforms in 1/100 ml. (2 days).	
	Under 100,000	100,000 to 200,000	200,000 to 500,000	500,000 to 1,000,000	Over 1,000,000	—	+
311	213	27	27	5	39	222	89

Viewed from the number of bacteria found, 152 (71·36 per cent.) of the 213 samples with less than 100,000 bacteria per millilitre were of certified quality, compared with 137 (70·62 per cent.) of the 194 with less than 100,000 in 1943. Two hundred and forty (77·17 per cent.) of the total number of samples taken were equal to Tuberculin Tested quality, compared with 228 (73·08 per cent.) in 1943. Coliforms were absent in 222 (71·38 per cent.) compared with 223 (71·47 per cent.) in 1943. Three hundred and eleven samples were also submitted for chemical analysis ; 28 were found low in non-fatty solids. The average fat and non-fat content of the samples was 3·75 and 8·74 per cent. respectively.

*Raw Milk as Retailed in the City.*—One hundred and two samples of raw milk as retailed were taken from shops and carts in the City. Three of 55 (5·45 per cent.) were found positive for tubercle bacilli compared with seven of 103 (6·80 per cent.) last year. Adverse results when received are communicated to the Medical Officers of Health of the districts where the milk was produced, and steps are taken meanwhile to prevent the sale of any infected milk. This raw milk, supplied usually by wholesale and retail producers, decreases in quantity each year.

All the samples were examined for the number of bacteria and the presence of coliforms. Results are detailed in the following table :—

BACTERIAL COUNTS OF RAW (UNTREATED) MILK AS RETAILED IN THE CITY.

Number Examined.	Average Number of Bacteria per ml.						Coliforms in 1/100 ml. (2 days).	
	Under 30,000	30,000 to 100,000	100,000 to 200,000	200,000 to 500,000	500,000 to 1,000,000	Over 1,000,000	—	+
102	51	16	17	13	1	4	75	27

*Milk to School Children.*—This year only milk of pasteurised quality was supplied to the schools. The milk is supplied by four contractors and is sampled regularly. One hundred and forty-four samples were examined during the year in terms of the Milk (Special Designations) Orders. Sixty-one of 144, equal to 43 per cent., failed to pass the test, which is very exacting. During the year however, a new test has been introduced which takes no account of the bacterial plate count but requires the absence of B.coli and in addition, the passing of a phosphatase test. The results of this new test should prove of interest.

A table giving a summary of results of the sampling follows. Another table shows the average daily quantity supplied, computed on a monthly basis, along with the number of school days which occurred in each month.

#### SCHOOL MILK, 1944 (PASTEURISED).

Number Examined.	Number Exceeding Count.	Average Number of Bacteria per Millilitre.	Number Tuberculous.	Average Fat Solids.	Average Non-fat Solids.
144	61	42,435	—	3.67	8.64

#### AVERAGE DAILY QUANTITIES SUPPLIED.

Month.	Gallons.	School Days.	Month.	Gallons.	School Days.
January ...	5,211	18	July ...	544	8
February ...	5,471	20	August ...	838	10
March ...	5,497	25	September ...	4,266	25
April ...	5,470	13	October ...	5,033	20
May ...	5,395	19	November ...	5,393	20
June ...	5,166	25	December ...	5,332	20

*Milk Summary.*—The same difficulty still persists regarding labour in the creameries. A regrettable feature is the competition for dairy pasteurising plant operatives resulting in personnel being taken from one dairy to another after just being settled in. Certain creameries still await delivery of plant and, after delivery, the erection is another source of trouble and delay. Improvement and provision of new refrigeration plant has been accomplished in different parts of the City, particularly by one large company. This should reduce complaints of the early souring of milk after delivery. The general programme for improvement continues.

A new milk designation, viz. :—"Heat Treated," has been introduced, the tests being methylene blue and phosphatase. In connection

with Pasteurised milk there has been an alteration in the method of testing. The bacterial plate count has been dropped and a coliform and a phosphatase test have been introduced. Pasteurised milk can now also have been pasteurised previously. The result of this change will be watched with interest during the year.

One Tuberculin Tested producer has obtained a Certified licence during the year and there are seven producers with Tuberculin Tested licences, twenty with Standard licences, and also seven licensed Pasteurising Establishments. Of 403 samples of designated milk examined, 71·71 per cent. complied with the standards required. This is practically the same as last year.

The number of tuberculous samples found in the ordinary milk supply was eleven out of 307 examined (3·58 per cent.) compared with seventeen of 312 (5·45 per cent.) last year. Fifty-five raw milk samples taken from shops and carts were also biologically examined. Three were found positive (5·45 per cent.) compared with seven of 103 (6·80 per cent.) last year. No sample of 144 school milks was found tuberculous, nor was any of 212 samples examined of Tuberculin Tested and Pasteurised milk supplied to the hospitals. One of 43 samples of Standard milk was reported as tuberculous.

*Inspection of Food and Food Premises.*—To ensure compliance with the various Acts and Regulations, 10,468 inspections were made by the Food Inspectors of markets, stores, shops, and places where food is dealt with. Two thousand and seventy-five lots of food were reconditioned or passed as suitable for animal food only or destroyed. The total amount equalled 180 tons, 17 cwts., and consisted chiefly of canned foods as follows :—meat, milk, fish, vegetables, and fruit ; also fresh vegetables, cereals, and dried fruit, and other miscellaneous articles. Shops, stores, etc., were generally found in a commendable condition. A parcel of biscuits infested with maggots was seized in an ice cream vendor's premises and condemned by the Stipendiary Magistrate, the shopkeeper subsequently being fined £4.

Under the Public Health (Meat) Regulations (Scotland), 1932, ten premises were registered and certificates of approval issued in respect of them. Thirty-three copies of certificates were issued in connection with vehicles operating from these premises.

*Fertilisers and Feeding Stuffs Act, 1926.*—Twelve samples of feeding stuffs were procured during the year and submitted to the Agricultural Analyst for examination. One sample was found to have an excess of



fibre. All the others were reported upon as conforming with the terms of the Act. No request was received during the year for any samples to be taken. All results have been duly reported to the Department of Agriculture for Scotland.

*Dairies.*—Dairies on the register at the end of the year numbered 1,474, compared with 1,558 last year. This shows a decrease of 84. This number consists of the following :—52 producers, 14 wholesalers, 54 wholesale and retail dealers, 621 retailers of loose milk, 724 retailers of bottled milk only, and 9 carts from without the district. A qualified certificate of registration is granted where milk is supplied only in properly capped and sealed bottles as received from the wholesaler. This certificate is granted where the shop does not satisfy the terms of the Dairy Bye-laws. The percentage of these dairies is 49·12 of the total number registered, compared with 47 per cent. in 1943. During the year, 15,829 inspections were made of dairies and 55 contraventions were dealt with. In 83 instances repairs and alterations were carried out as requested. One dairyman was fined £2 for sleeping on his premises. Another was fined £5 for failing to register as a dairyman.

*Byres.*—There are 52 producers in the City, having 64 byres. Five hundred and thirty-eight inspections were made of these byres, which were found to be generally well kept. Repairs were carried out in one instance and eleven contraventions of the bye-laws corrected. There is provision for 1,665 cows in the byres, and the average number kept is 1,576. Only in one instance are no grazing facilities provided for the herd.

*Exempted Persons.*—There are three byres in the City where persons keep cows for their own use. The number kept averages six. In addition, the Public Health Department have two attested herds within the City, the number approximating 640 animals. Milk is produced for use in Corporation institutions only. All these byres are regularly supervised and found to be well kept.

*Food and Drugs (Adulteration) Act, 1928, Section 8—Registration of Butter Factories and Wholesale Dealers in Margarine, etc.*—Twenty butter factories and 150 wholesale dealers in margarine are on the register. Visits were paid to these premises in the course of the year, and no contravention was found. Samples taken were reported upon satisfactorily by the City Analyst. Details of the number on the register at the end of the year are as follows :—

Wholesale dealers in margarine	...	...	...	...	150
Factories of or wholesale dealers in milk-blended butter	...	...	...	...	—
Butter factories	...	...	...	...	20

*Ice Cream Shops.*—The number of persons still remaining on the Register of Ice Cream Dealers in the City at the end of the year was 451, which is one less than the number for the previous year. Inspections were carried out at shops; these numbered 1,144.

*Cleanliness of Milk Bottles.*—Forty bottles were procured from dairies for examination as to their cleanliness and sterility. These were washed and ready for filling with milk. Ten bottles had high counts and ten bottles had high counts with B.coli present. Twenty were satisfactorily washed. The U.S. Ordinance and Code fixes a maximum of 600 organisms per pint bottle as a standard of cleanliness. Where cleanliness was found unsatisfactory, dairymen were cautioned. The machines and methods used in washing were the soaker-sprayer and the jet type machines and rotary and hand brushes. The soaker-sprayer and the jet type of bottle-washing machine showed the best results, while rotary and hand-brushing were poorer. Two dairymen were fined 10s. and 40s. respectively for failing to wash and cleanse milk bottles thoroughly. Two householders were fined £2 each and another £3 for retaining large numbers of bottles in a dirty condition. One of the persons had 520 bottles stored in the house. The dairy which supplied this defaulter was situated within a few yards of the house.

#### THE FOOD AND DRUGS (ADULTERATION) ACT, 1928.

*Details of Samples, etc., in which Proceedings were Instituted during 1944.*

No. of Com- plaints.	Nature of Sample and Alleged Offence.	No. of Convictions.	Amount of Fines Imposed.	Number Dismissed or found Not Proven.	No. Deserted Simplificiter.
3	Mince—Contained preserva- tives during proscribed period ... ..	3	£18	—	—
4	Milk—Deficient in milk-fat	4	£19	—	—
11	Milk—Deficient in solids other than fat ... ..	10	£40	—	1
3	Whisky—Contained an excess of water ... ..	3	£14	—	—
1	Camphorated Oil—Deficient in camphor ... ..	1	—	Admonished	—
	Sausages—Contained an ex- cess of preservatives ...	3	£10	—	—
1	Mustard—Deficient in allyl isothiocyanate ... ..	1	£2	—	—
1	Gelatine—Contained excess of arsenic ... ..	—	—	1 (Warranty Defence)	—
1	Gelatine—Contained excess of copper ... ..	—	—	—	1
—	—	—	—	—	—
28	—	25	£103	1	2
—	—	—	—	—	—

## SECTION VIII.

## AIR PURIFICATION AND SMOKE ABATEMENT.

During 1944 the position with regard to fuel supplies was difficult in the extreme. All types and varieties of fuel were in short supply and it would be correct to say that almost every user had at some time or another to use a type and grade unsuited for his particular plant, while many others were operating on this basis continually. This position was reflected in the amount of smoke being emitted from many large chimneys and at the same time the emission from very many of the smaller chimneys was most unsatisfactory. These smaller plants are less adaptable and cannot be worked satisfactorily when the fuel conditions are adverse. The poorer the quality of fuel in use, the greater is the consumption for a given steam generation or heat liberation. It is simply a vicious circle—lower quality, wrong type, unsuitable grading invariably means higher consumption with greater difficulty in managing the plant and, as a result, excessive smoke emission increases. When conditions such as these prevail the enforcement of statutory control is very difficult and plant executives and operators are less sympathetic if they feel that the official does not fully take the varying circumstances into account when making complaint about the behaviour of their chimneys. Technical advice offered to them and applicable to the particular conditions obtaining will always meet with ready acceptance. In this way some diminution of the smoke emissions is achieved.

The staff conditions during the year did not permit of routine observation and inspection, and efforts were confined to visiting outstanding cases and in dealing with complaints of local nuisance. A number of the complaints received dealt with the emission of grit. Where excessive gritty material is being emitted much trouble can be caused even in a comparatively open area as the effects of such emissions are felt at a considerable distance from the point of issue. Many large chimneys, in the plants connected with which "smalls" are being consumed, have grit arrestors fitted but many of the smaller plants have now had to have recourse to this class of fuel. Worked as they are under forced draught conditions and in populous areas, complaints have been persistent. A number of small process furnaces burning pulverised fuel were the occasion of grit complaints and

were dealt with several times during the year. This plant is situated in a village on the boundary of the city, actually in open country.

The Senior Inspector and one technical assistant still carry on the work including the supervision of all departmental fuel supplies and other details connected with the Department's engineering and other activities.

The anti-smoke complex which had been developed amongst the plant operators in the city has during the war years been largely lost and when there is a return to anything like normal conditions in this field, very great effort will have to be devoted to the work to regain the attitude of mind which has been lost. Again, it cannot be too strongly emphasised that the active sympathy and support of all personnel involved in the operation of plant for the burning of fuels is a very large factor in the continual fight to reduce atmospheric pollution to a minimum. Some day the smoke pall overhanging urban areas will be removed but only as the result of much effort and concentration by the local authorities and of many salutary alterations in plant and hitherto accepted methods.

#### SOOT AND ATMOSPHERIC PRECIPITATION GAUGES.

The usual monthly records of basic dust and artificially produced soot and ash, etc., precipitation from the five gauges throughout the city were carried on without interruption. The following is an abstract from the results which, in normal years, are published in detail :—

#### DEPOSIT OF EACH ELEMENT OF ATMOSPHERIC POLLUTION FOR 1943-1944.

						Tons per Square Mile.	
						1943.	1944.
Insoluble Matter—							
Tar	...	...	...	...	...	2.49	3.30
Carbonaceous other than Tar	...	...	...	...	...	45.85	48.38
Ash	...	...	...	...	...	97.60	102.22
Total Insoluble Matter						145.94	153.90
Total Soluble Matter						104.18	111.17
Total Solids						250.12	265.07
Rainfall in Millimetres						840.34	951.07

The Report for 1943 indicated that the average weight in tons per square mile of solid deposit was 0.297 millimetres of rainfall.



For the present year (1944) this figure amounts to 0.278 tons, a reduction of 0.032 as compared with 1943. The total precipitation during 1944 was 6.8 per cent. more than that for the previous six-year period 1938-43. The average annual precipitation for the six-year period 1938-43 was 247.05 tons as compared with 265.07 for 1944, as shown in the above table. The average monthly rainfall for the year during the winter period (October/March) was 78.92 millimetres, while the average monthly deposit for that period amounted to 23.20 tons per square mile. The corresponding figure for the summer period of the year (April/September) was 79.57 millimetres and there was an average monthly deposit of 20.97 tons per square mile. The total rainfall as shown by the gauges during 1943 amounted to 840.34 millimetres, the figure for the present year being 951.07 millimetres. As will be seen, the corresponding total precipitations are 250.12 and 265.07 respectively. This shows an increase in both rainfall and precipitation for 1944, but this is not always so, as many previous records have shown that the incidence of the rainfall has a direct bearing on the total precipitation so that a year showing a lesser rainfall could, and has shown a heavier precipitation.

#### CLASSES IN BOILERHOUSE PRACTICE AND FUEL ECONOMY.

As in past war years, enquiries were received at the beginning of the winter period from intending students and also from a number of firms as to the probability of the classes being arranged during the current season. It was also indicated by the Scottish Regional Fuel Efficiency and Economy Committee of the Ministry of Fuel and Power that they would again collaborate in the work of the classes should they be arranged.

Following the practice of recent years the Scottish Branch of the National Smoke Abatement Society circularised all the Corporation Departments, while the Regional Committee advised industrial firms generally in the area of the arrangements made for the resumption of the classes. A combined ordinary and advanced class commenced on Tuesday evening, 17th October, 1944, in the Burgh Court Hall, Municipal Buildings. The lectures were given between 7.45 and 9.15 p.m. and the class met weekly thereafter on the same evening of each week and at the same time until the end of the session. The class fee charged was the nominal one of 3s. 6d. Full use was made of the comprehensive series of wall charts, some 60 in number, in possession of the Branch. The total enrolment was 52. Of this number 33 were ordinary and 19 advanced class respectively. The

average attendance over the session was 71 per cent. ordinary and 76 per cent. advanced, a combined average of 73 per cent. A total of 14 lectures was given and in addition two further refresher lectures of two hours each were delivered at the end of the session to intending candidates for the City and Guilds of London Institute examinations in boilerhouse practice and combustion engineering. Seventeen candidates from the class enrolled for these examinations.

The written class examinations were held on Saturday afternoon, 3rd February, 1945, in the Municipal Buildings. Thirty-three men came forward, 19 taking the ordinary and 14 the advanced question papers respectively. Two-and-a-half and three hours were the times allowed for the completion of the questions. Eight questions out of 14 set in each paper had to be answered for the possible marks. As is the practice, 60 per cent. or over was made the standard qualifying for a merit certificate and only *bona fide* stokers, boiler attendants, or men of similar status, attaining at least 70 per cent. of the possible marks were eligible for competing for the three book prizes allocated to each class. Eleven men of the advanced and 15 of the ordinary class gained merit certificates. The prizes and merit certificates were presented at an evening social meeting convened during the month of May. As in previous years, Councillor Munro, the President of the Scottish Branch of the National Smoke Abatement Society, presented a technical book prize to the highest eligible member of each class who was employed in any of the Corporation Departments and who had not been already a prizewinner.

## SECTION IX.

## GENERAL SANITARY OPERATIONS.

This is the sixth war-time annual report on the sanitary operations of the City. On the grounds of expediency it is once again presented as a single statement instead of the customary separate reports from the divisions, and must be regarded as a mere outline of the year's activities.

The demands of the services as well as normal retirals have made further inroads on experienced personnel and increased the difficulties of maintaining working efficiency. It is gratifying to record, however, that no branch of the work has been allowed to suffer and this despite added duties imposed by war conditions.

*General Nuisances.*—The detection and removal of nuisances in terms of the Public Health (Scotland) Act, 1897, has, as always, been a major concern. In this connection, 557,286 visits of inspections were made and 54,015 nuisances abated. These figures compare very favourably with those for the previous year.

Malicious damage to property, for which there appears to be no effective deterrent, has assumed widespread proportions in many areas. Under this heading the removal or breaking of trap gratings followed by the fouling of the ventilating shafts of the traps has been the cause of innumerable chokages of drainage systems. In many such cases it has been necessary to expose the drain in order to remove the obstruction, and with labour in short supply it has not always been possible to have the work carried out with the desired expedition. In two instances the responsible owners were reported for prosecution for failure to abate nuisance condition arising from choked drainage. The work was, however, carried out before the cases were called and proceedings were abandoned.

*Limewashing of Common Stairs, etc.*—The lack of labour for the cleansing and limewashing of common passages and stairs, to which attention was directed in the previous year's report, continued to be a hindrance to this essential public health work. The strutting of the closes, particularly where this is in timber, has also presented

difficulties over the war years. Indeed this form of strutting has become a veritable harbour for dust and other refuse giving rise to numerous complaints.

Visits of inspection under this heading numbered 21,923 and 2,825 notices were issued to property owners specifying the nature and extent of the cleansing and limewashing work required. During the year 2,987 notices, including 162 served during the previous term, were complied with. In one instance a firm of factors appealed to the Magistrates' Committee against notices issued by the Divisional Sanitary Inspector in respect of five tenement properties. Both parties were heard by the Committee, who dismissed the appeal, and subsequently the stipulated limewashing was duly carried out.

The powers exercised by the Local Authority in respect of the cleansing and limewashing of common passages and staircases, which are contained in Paragraph 34 of the Glasgow Corporation Order Confirmation Act, 1934, refer only to such tenement buildings as are occupied "wholly or principally as dwelling houses." It is considered that there is a case for amendment of the law to embrace similar buildings occupied as business premises, of which there is a very considerable number in the central area of the City.

*Cleansing of Common Stairs, Passages, etc.*—Judged by the fall in the number of defaulting tenants brought before the Police Courts as compared with the figures for the previous year, there has been some improvement in the observations of the bye-law regulating the cleansing of common stairs and passages. The fact remains, however, that complaints in this connection showed no decrease and continued to demand much attention. Over the year 50,505 visits of inspection were made, 12,631 notices were issued to householders fixing their rotation of cleansing, and, in addition, 8,053 verbal warnings were given to offenders. It was necessary to resort to Court proceedings in 89 instances, in all of which convictions were obtained. The fines imposed amounted to £37 18s. 6d.

The fact that legal action can, in terms of the bye-laws, succeed only against a "tenant" has presented some difficulties, and it would greatly facilitate the administration of the law if the word "occupier" as defined in Section 4 of the Burgh Police Act, 1892, was substituted. As matters stand at present there are many instances in which responsible tenants are not available and actual occupiers are evading their moral obligations with impunity.



*Sub-letting.*—Under this heading mention was made in last year's report of the Rent of Furnished Houses Control (Scotland) Act, 1943, which came into force towards the end of that year. The object of the Act is to ensure that fair rents are charged for "furnished lets" and "lets with services" and in pursuance thereof a Tribunal appointed in terms of the Act have during the year heard evidence in cases referred to them by lessees or by the local authority. Rents were approved or reduced as the circumstances warranted; the Tribunal have no power to increase rents.

It was foreseen that a lessee who had made application to the Rent Tribunal might be evicted from his premises by the aggrieved lessor, and to guard against this form of victimisation, the Secretary of State for Scotland conferred power on the Town Clerk to requisition premises so concerned. There have been six instances in which it was found necessary to put this power into force.

The number of houses in this category under sanitary supervision in the City shows a slight decrease from that of the previous year, the figures being 595 houses comprising 3,468 apartments as compared with 625 houses comprising 3,681 apartments for 1943. Regular inspection has been continued to ensure cleanliness and a reasonable standard of repair, and in this connection 5,186 visits were made. An owner of three houses, the apartments in each of which were let out separately by him, absconded early in the year and could not be traced. No rents were being collected and no repairs carried out. Subsequently he invited the Corporation to take over the houses but this was not done, and the position at the end of the year was that in the interests of public health the local authority was carrying out such works as were necessary to prevent the occurrence of gross nuisance condition. Another case of interest concerns a sub-tenant who was found to be breeding pekinese dogs in a basement apartment. Being evicted on this account by the principal tenant, she found other quarters and was again evicted for the same offence, this time by the factor from whom she had rented the premises, whose attention to the matter had been directed by this Department. It is considered likely that she is now outwith the City.

*Common Lodging Houses.*—The number on the register at the end of the year was 35 with accommodation for 7,863 persons, which includes lodging houses for women and boarding houses for seamen. This is a slight decrease from the previous year due to the conversion of one house containing 160 beds to business purposes. Visits of

inspection totalled 1,075 and 46 contraventions of the bye-laws were discovered. These were of a minor character and were remedied without recourse to legal proceedings.

The lodging-house keepers are handicapped by the black-out regulations which necessitate the painting of the window glass and seriously restrict the admission of natural light to the dormitories and reduce ventilation during the hours of darkness when it is most required. The present maximum charge of 1s. per night (increased from 4d. and 6d. by the Corporation Order Confirmation Act, 1923) should now be revised and increased as the minimum charge in the majority of the houses is 11d. per night. This would not affect boarding houses for seamen which are defined as common lodging houses irrespective of the charges made. Consideration might also be given to an alteration of the present method of fixing the space for each lodger on a cubic feet basis to that of a floor area basis which would bring it into line with the method adopted for dwelling-houses in the Housing (Scotland) Act, 1935.

*Farmed-out Houses.*—There is no change from last year and the number on the register is 368. A substantial decrease may be expected next year as several of the principal tenants have expressed their intention of giving up their houses owing to the difficulty and cost of keeping them furnished. The number of inspections made was 3,393 and 106 nuisances were found, consisting mainly of disrepair or dampness, and dirty floors and bed clothing.

Towards the end of the year one tenement containing 34 houses was declared to be a dangerous structure and the Corporation is at present finding accommodation for the occupying families, after which the property will be demolished. The average length of tenancy of these families is 5 years, the times varying from one to twenty-six years. As the majority of farmed-out houses are situated in worn-out properties which are beyond effective repair, the occupants may at short notice cause additional strain on the housing accommodation in the city.

*Shops.*—The number of inspections was 3,241, and 240 nuisances and contraventions of the Shops Act were found and remedied. These consisted of inadequate ventilation failure to maintain a reasonable temperature defective sanitary fittings, dampness, dirty floors, and rat infestations. With regard to the latter, it will ultimately be essential that shops from which food-stuffs are sold be made rat-proof.

*Rats and Insect Pests.*—The publicity given during recent years to the necessity of dealing with rat and insect infested premises has awakened the public mind to the potential dangers of such pests and no longer do the people silently tolerate their presence. This is evident by the frequency of complaints which have added considerably to the work of the Department and to our knowledge in investigating the sources of infestation and the remedial measures to be taken. The whole field of operations leads to an interesting study of their habits under varying circumstances and the ways and means of effectively dealing with them are guided accordingly.

There is ample evidence of rats burrowing under footpaths and streets where the various underground service pipes, such as gas, water and drains etc., provide a convenient passage for them to travel along the sides of such pipes and from there they eventually find access to buildings at vulnerable openings in the masonry. Sometimes the remedy simply involves the sealing of such an opening, and in other cases more extensive operations are required.

Modern shop fronts fitted with marble slabs or other decorative materials may be beautiful to look at, but behind this form of beautiful structure there are cavities which, when discovered by rats, become their breeding place and make the work of rat-proofing more difficult and expensive. There is no doubt that rats will travel over a wide area in search of food, and an easy means of passage is by way of sewers. It would therefore appear that an attempt should be made to tackle the destruction of the sewer rats in the hope that such action would reduce to some extent surface infestations arising from that source, and I am glad to say that arrangements are now being made to deal with sewer rats.

The services of the Department of Agriculture's teams of trappers were employed in suitable cases, and as a result of their work 10,560 rats were destroyed. To this total has to be added the unknown number of rats killed by rat catchers and tradesmen employed by owners and occupiers of business premises and dwelling-houses. The rat-proofing of premises is expanding each year and the services of the Department in an advisory capacity in this connection are very much appreciated by those who are really anxious to rid their premises of vermin.

Complaints of beetle infestations in bakehouses and dwelling-houses appear to be second in importance to rats. Recently a splendid opportunity was afforded to examine thoroughly a few houses of

modern construction where these pests had been established for some years. Every assistance was given by the factor to the officer in charge who instructed the tradesmen as to the methods of procedure. It appears that the factor's tradesmen had been in the habit of providing the complaining tenants with insect powder which they scattered around fireplaces, etc., but as the results were unsatisfactory we were consulted. As the beetles were chiefly present in ground flat houses it was agreed to lift the floors in order to inspect the under building of the brickwork around the hearths. The solums were paved with asphalt and when the brickwork around the hearths was examined it was discovered that the space within the brickwork had not been filled with solid material and that there was no doubt of this being the breeding place as both beetles and their eggs were seen in large numbers. Before disturbing the beetles, insect powder was spread liberally over the paved solums so that escaping beetles had to travel over the powder. Blowlamps were used to destroy the eggs. This operation was continued until no beetles were seen, and the hearths were filled solid and grouted with cement. There has been no further evidence of beetles since the disinfestation was completed.

Had the hearths been built solidly when the houses were erected, in all probability the risk of extensive beetle infestation would have been avoided. As a matter of fact, all cavities in walls provided for sound insulation and for other purposes are potential breeding places for insects and other pests, and every precaution should be taken during the course of construction to prevent harbourage for rats and other vermin.

*Offensive Trades.*—Very few complaints have been made during the year about these trades. Every known means of making them as inoffensive as possible has been tried and not without encouraging success. We are aware that disagreeable odours are not solely confined to boiling processes. These are usually treated with chlorine gas or vapour, but nuisances can arise from raw untreated material and from other processes which are not subjected to chlorine treatment, such as the withdrawal of residual products in a more or less steaming condition from digesters, and which add their quota of smells. In an attempt to overcome such disagreeable odours, experiments have been tried with deodorising liquids which, when heated by a steam jet, send forth into the atmosphere a vapour which mixes freely with any other smelly vapour arising from the processes above mentioned. These experiments have been tried for some considerable time and



there is no doubt that the deodorant neutralises the more objectionable odours, so much so that in two particular districts where the practice has gone beyond the experimental stage there have been no complaints of objectionable smells, whereas formerly they were of frequent occurrence. The method adopted is simple and consists of a few old barrels into which a quantity of the deodorant is placed with a little added water. As there is always plenty of steam available in such establishments, a jet can be led into each barrel, and in a few minutes the atmosphere is charged with the predominating smell of the deodorant.

Objectionable smells are not the only source of complaint from offensive trades, for during the summer months flies and their larvae are to be seen in great number on and around the untreated animal matter. For some time it has been the practice to spray the untreated animal matter and other breeding places with insecticides, which to some extent reduces the number of flies, but in order to reduce fly life still further the colouring of the windows of a gut-cleaning business was tried, with splendid results. The windows of this factory were coloured blue and a daily observation revealed an amazing number of dead flies on the floor every day. Prior to the colour treatment, the windows were usually covered with blue flies, but afterwards the flies which came in at the doors settled on the ceiling for a time and eventually dropped on to the floor where they were brushed up and disposed of. It would appear that the blue-coated windows destroy some actinic value in the light which is necessary for fly life. It is intended to advocate the extension of this practice in other suitable places.

With regard to rats a continuous campaign is carried on all the year round by the use of poison and traps, etc.

There is no change in the number of offensive trades ; 64 are on the register and 41 are operating.

*Tents, Vans, Sheds, or Similar Structures used for Human Habitation.*—Many showmen during the war years have been unable to follow their usual occupation and have taken up work of national importance ; consequently considerably more than usual have been living in vans within the city. Suitable latrine accommodation is provided in all cases, together with a water supply and the provision of receptacles for the storage of garbage. There were no serious contraventions of the bye-laws.

*Verminous Children.*—During the year 1,271 visits were paid to schools; the number of children inspected was 89,192, of whom 18,025 were found to be infested or infected. Children infested with fleas totalled 376, while 1,697 were dirty. Written notices numbering 851 were sent to parents asking them to improve the condition of their children. The number of children cleansed by parents and by the Local Authority was 12,494 and 206 respectively.

Two years ago a hot air chamber for the treatment of verminous clothing, blankets, and other light articles was provided in central premises for the use of seamen and others whose clothing had become infested. This service is much needed and is appreciated as evidenced by the number who take advantage of the facilities provided. Similar arrangements are afforded at the Disinfecting Stations at Ruchill and Belvidere Hospitals where a few men present themselves from time to time for a bath and to have their clothing disinfected.

*Factories.*—At the end of the year there were on the register 6,260 factories (4,248 mechanical and 2,012 non-mechanical), including 253 mechanical bakehouses and 170 non-mechanical. Visits of inspection numbered 12,115 and 2,215 defects were remedied. The bulk of the defects were of the type normally found and call for no special comment. Every opportunity is taken to improve the standard of sanitary conveniences, especially by the substitution of wash-down water-closets for the unsatisfactory trough type of convenience. In one large establishment the position of the existing sanitary conveniences made it impossible to conform to the Regulations and a new range of water-closets was built at the instigation of the Department.

*Piggeries.*—There are 66 piggeries on the register, an increase of 3 over the preceding year. These are visited regularly for the purpose of enforcing the bye-laws and ensuring that the periodic limewashing is carried out. During the year 361 visits were paid and 36 nuisances dealt with.

*Cemeteries.*—The various cemeteries and those churchyards where interments may be carried out under restriction were inspected 48 times. No conditions calling for special comment were noted. Three applications for permission to inter in lairs where the sanction of the Medical Officer of Health is necessary were made; all were granted.

*Rag Flock Acts.*—No action was taken during the year by any of the divisions under this heading. The report of the Committee set up by the Government in 1938 and referred to in the last two Annual Reports is still awaited. It is now learned that the Committee hope, before they issue their Report, to receive evidence on the subject from the British Standards Institution, a body which has already set up standards of cleanliness for nearly all fillings.

*Housing (Agricultural Population) (Scotland) Act, 1938.*—Officers of the Department inspected eleven different premises throughout the year and discovered no breaches of the bye-laws framed by the Corporation in connection with bothies, chaumers, etc.

*Timber Camps.*—In the course of the year intimation was received from the Department of Health for Scotland of the establishment of a private enterprise timber camp in the south-western area of the city and enclosing general recommendations in respect of such places by the Scottish Timber Trade. A visit to the address given revealed premises used as a sawmill, situated in the centre of a large estate and belonging to a proprietor well-known in the West of Scotland for his interest in aboriculture. The existence of the premises as a sawmill had long been known to the officer who made the inspection, as were also the well-equipped and furnished houses serving as bothies, etc. Present legislation, it would appear, requires an employer dealing with timber to obtain a licence permitting him to work in certain woods, and this requirement resulted in the excellent accommodation provided for the estate workers being placed in the category of a timber camp.

*Drainage.*—With the diversion of many operatives to effect “first-aid” repairs to buildings in the South, the “stand-still” in building activities throughout the year was more pronounced than ever before. Notwithstanding the exodus that took place, 484 new houses were completed in the city and the drainage and plumber-work of these together with a fairly substantial number of the older types of houses were examined and tested. The number of visits made in this connection totalled 9,160, and the number of tests applied 563, of which 559 were made by means of smoke and 4 by means of water.

*Rent Restrictions Acts, 1920-1939.*—During the year 104 applications were received from tenants for certificates to the effect that their dwelling-houses were not in a reasonable state of repair. In 88

instances applicants were issued with certificates, 15 were refused, and one had not been disposed of at the end of the year. Twenty applications for reports by owners of property were all granted. The total number of visits made in connection with these applications was 283.

*Sanitary Conveniences.*—Water-closets used in common throughout the city number 30,819, of which 6,206 serve two families each, 17,185 three families each, 6,143 four families each, and 1,285 five or more families each. The number of dry closets totals 195 and of these 74 are situated in allotments, factories, etc., while of the remainder 100, 15, 5 and 1 serve one, two, three, and four households respectively. There are 47 privy middens including four at farms, and the numbers serving one, two, and three families each are 27, 10, and 10 respectively.

In areas of the city where no sewerage facilities are available there are 277 houses, varying in size from one to four apartments, without an internal water supply.

The number of houses in the city with baths is 123,409, representing 43 per cent. of the total.

*Military Camps and Billets.*—A marked reduction falls to be recorded in the number of camps and billets visited during the year. Only three visits were made and these were principally concerned in advising Commanding Officers with regard to drainage arrangements. The disinfecting stations dealt with 16,640 articles belonging to the various branches of the Forces.



## APPENDIX.

TABLE I.—GLASGOW, 1944.—NUMBER OF OCCUPIED AND EMPTY HOUSES IN EACH MUNICIPAL WARD AND NUMBER PER ACRE.

Municipal Wards.	Occupied Houses.		Empty Houses.		Houses per acre 1944
	1944	1943	1944	1943	
1. Shettleston and Tollcross ...	11,729	11,719	5	5	8
2. Parkhead ...	10,042	9,953	2	3	11
3. Dalmarnock ...	8,088	8,084	13	9	28
4. Calton ...	6,061	6,079	14	4	18
5. Mile-End ...	4,828	4,776	1	4	25
6. Whitevale ...	5,141	5,133	7	—	29
7. Dennistoun ...	7,213	7,209	1	5	26
8. Provan ...	11,686	11,674	5	3	4
9. Cowlairs ...	6,243	6,239	1	2	14
10. Springburn ...	6,463	6,313	20	11	1
11. Townhead ...	6,097	6,117	17	2	34
12. Exchange ...	3,274	3,266	9	11	11
13. Blythwood ...	2,314	2,307	3	14	9
14. Anderston ...	5,641	5,671	2	4	13
15. Sandyford ...	4,098	4,094	7	3	27
16. Park ...	5,512	5,544	11	14	20
17. Cowcaddens ...	7,827	7,801	3	6	16
18. Woodside ...	8,397	8,409	9	42	49
19. Ruchill ...	12,225	12,224	4	4	6
20. North Kelvin ...	6,038	5,951	14	22	41
21. Maryhill ...	6,872	6,863	2	5	3
22. Kelvinside ...	8,823	8,683	57	109	8
23. Partick (East) ...	6,639	6,629	15	13	25
24. Partick (West) ...	6,504	6,501	6	5	18
25. Whiteinch ...	9,104	9,090	17	20	7
26. Hutchesontown ...	9,676	9,633	3	7	25
27. Gorbals ...	9,722	9,667	15	29	38
28. Kingston ...	6,169	6,141	13	9	21
29. Kinning Park ...	8,311	8,312	7	12	22
30. Govan ...	9,037	9,026	2	4	16
31. Fairfield ...	8,300	8,305	—	—	6
32. Pollokshields ...	14,180	13,896	15	14	3
33. Camphill ...	5,984	5,998	6	15	16
34. Pollokshaws ...	7,668	7,637	9	3	2
35. Govanhill ...	8,472	8,460	—	1	23
36. Langside ...	5,292	5,212	13	10	9
37. Cathcart ...	9,521	9,522	8	6	3
38. Yoker and Knightswood	9,589	9,470	8	5	3
Total ...	288,780	287,608	344	435	7

TABLE II.—GLASGOW.—LININGS GRANTED BY DEAN OF GUILD COURT  
IN YEARS FROM 1919 IN RESPECT OF HOUSES.

Year ending 31st August.	NUMBER OF APARTMENTS.						TOTAL
	1.	2.	3.	4.	5.	6.	
1919-20 (Annual Average)	—	6	692	246	107	29	1,08
1921-25 (do)	—	308	638	400	234	51	1,63
1926 ...	—	318	4,649	967	769	93	6,79
1927 ...	—	228	2,889	1,209	802	55	5,18
1928 ...	—	132	4,184	2,238	314	17	6,88
1929 ...	—	570	1,656	1,024	124	82	3,45
1930 ...	—	506	1,958	1,295	230	202	4,19
1931 ...	—	122	2,220	1,900	38	26	4,30
1932 ...	33	529	3,464	1,251	70	4	5,35
1933 ...	—	270	1,845	3,162	337	23	5,63
1934 ...	34	603	1,825	787	80	52	3,38
1935 ...	—	220	2,082	792	128	9	3,22
1936 ...	—	—	1,462	1,320	290	12	3,08
1937 ...	—	2	687	847	301	34	1,87
1938 ...	—	—	2,017	3,068	824	50	5,85
1939 ...	—	—	2,159	3,324	717	2	6,21
1940-43 ...	—	—	—	—	—	—	—
1944 ...	36	—	—	5	1	—	42

TABLE III.—ABSTRACT OF METEOROLOGICAL OBSERVATIONS TAKEN AT  
SPRINGBURN PUBLIC PARK.

MONTHS. 1944.	TEMPERATURE.			RAINFALL.		SUNSHINE Hours
	Highest Temp. in Shade.	Lowest Temp. in Shade.	Mean Temp.	No. of Days.	Amount Collected in inches.	
January ...	51	23	40·7	26	4·29	4
February ...	51	22	38·2	15	1·73	73
March ...	59	23	41·3	10	0·98	88
April ...	63	27	47·5	18	2·30	90
May ...	75	33	50·3	19	3·19	117
June ...	78	43	55·5	22	3·10	151
July ...	79	48	59·7	18	3·33	101
August ...	80	39	59·8	17	3·53	122
September ...	69	36	51·4	18	5·52	78
October ...	59	32	46·1	23	4·89	67
November ...	51	21	38·9	23	6·79	35
December ...	51	25	38·0	22	4·79	21
1934 ...	86	24	48·5	248	39·98	1,1
1935 ...	80	15	47·2	230	43·44	1,2
1936 ...	80	17	47·2	230	40·85	1,0
1937 ...	80	15	47·0	212	31·66	1,1
1938 ...	76	20	48·1	242	49·76	1,1
1939 ...	88	18	47·6	212	38·41	1,1
1940 ...	85	6	46·5	210	39·52	1,1
1941 ...	80	12	46·3	204	33·34	1,0
1942 ...	80	18	46·3	220	40·64	1,0
1943 ...	86	23	48·0	252	45·43	1,0
1944 ...	80	21	47·3	231	44·44	9

TABLE IV.—GLASGOW.—BIRTH RATES AND DEATH RATES PER MILLION AND ILLEGITIMATE BIRTHS FOR THE YEARS 1943 AND 1944.

Municipal Wards.	Birth Rates.		Death Rates.		Illegitimate Births % of Total Births	
	1944	1943	1944	1943	1944	1943
1. Shettleston and Tollcross ... ..	19,430	18,644	11,690	12,624	6·7	5·3
2. Parkhead ... ..	21,195	20,373	13,549	14,733	7·0	7·3
3. Dalmarnock ... ..	21,888	24,078	14,104	13,701	5·8	6·9
4. Calton ... ..	19,813	21,706	16,468	16,886	12·9	10·8
5. Mile-End ... ..	23,684	24,016	14,925	15,181	8·4	7·1
6. Whitevale ... ..	21,503	23,017	14,723	13,971	6·1	4·1
7. Dennistoun ... ..	16,200	16,919	12,905	14,377	8·2	5·6
8. Provan ... ..	20,887	21,168	13,696	12,738	7·8	5·8
9. Cowlairs ... ..	19,417	19,503	12,751	12,802	6·7	5·8
10. Springburn ... ..	19,010	18,755	12,672	12,693	5·5	6·4
11. Townhead ... ..	23,411	21,367	15,076	15,538	13·4	11·2
12. Exchange ... ..	22,134	22,843	18,062	17,066	18·2	15·5
13. Blythswood ... ..	18,172	17,298	17,427	15,461	20·2	16·6
14. Anderston ... ..	23,633	22,992	15,124	14,061	7·4	8·1
15. Sandyford ... ..	20,783	19,085	14,733	14,085	10·1	9·1
16. Park ... ..	18,334	17,991	16,305	17,016	13·3	12·7
17. Cowcaddens ... ..	23,109	25,129	16,051	14,632	9·4	8·4
18. Woodside ... ..	21,050	22,976	15,445	14,667	11·1	9·2
19. Ruchill ... ..	18,835	19,231	12,789	12,309	9·7	8·5
20. North Kelvin ... ..	20,765	19,927	13,478	14,689	7·6	8·1
21. Maryhill ... ..	17,706	16,650	12,860	13,065	6·5	7·3
22. Kelvinside ... ..	14,755	14,198	12,158	14,343	6·1	5·1
23. Partick (East) ... ..	21,272	20,886	13,938	14,961	6·9	6·6
24. Partick (West) ... ..	20,185	20,185	12,289	11,707	3·3	4·8
25. Whiteinch ... ..	17,914	18,454	12,596	12,269	4·3	4·0
26. Hutchesontown ... ..	21,785	23,655	12,398	12,502	6·6	6·8
27. Gorbals ... ..	25,560	26,340	16,103	15,985	14·2	13·6
28. Kingston ... ..	23,229	26,837	14,514	14,351	10·7	8·9
29. Kinning Park ... ..	22,608	24,822	14,142	14,092	6·1	6·1
30. Govan ... ..	24,729	24,001	14,168	13,573	6·9	5·6
31. Fairfield ... ..	20,188	17,080	11,421	12,163	3·7	4·1
32. Pollokshields ... ..	21,574	19,539	12,533	14,128	5·1	4·1
33. Camphill ... ..	15,244	16,075	13,022	16,611	3·3	6·5
34. Pollokshaws ... ..	18,575	18,938	12,616	12,046	6·7	5·2
35. Govanhill ... ..	18,750	16,941	13,216	12,921	5·3	4·5
36. Langside ... ..	14,869	14,423	13,038	15,729	5·6	3·5
37. Cathcart ... ..	12,604	14,090	12,514	13,082	3·1	1·8
38. Yoker and Knightsw'd Institutions, etc. ... ..	17,469	17,022	11,108	10,984	5·4	5·2
Harbour ... ..	—	—	—	—	54·5	52·9
CITY ... ..	20,209	20,355	13,908	14,181	7·9	7·2

TABLE VI.—GLASGOW, 1944.—DEATHS FROM

CAUSE OF DEATH.	MALES.														Not Stated.	Total Males.
	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	75	75--			
1. Typhoid and Paratyphoid Fevers ... ..	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	
2. Cerebro-spinal Fever ... ..	6	—	1	2	—	—	2	2	2	—	1	1	—	—	—	
3. Scarlet Fever ... ..	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	
4. Whooping Cough ... ..	12	3	3	1	—	—	—	—	—	—	—	—	—	—	—	
5. Diphtheria ... ..	1	10	16	4	—	—	—	—	—	—	—	—	—	—	—	
6. Erysipelas ... ..	—	—	—	—	—	—	—	—	—	1	—	2	1	—	—	
7. Tuberculosis of Respiratory System ... ..	8	10	6	2	6	31	65	98	116	128	87	44	5	—	64	
8. Tubercular Meningitis ... ..	6	13	18	14	10	15	6	2	2	—	—	—	—	—	8	
9. Abdominal Tuberculosis ... ..	—	—	—	1	—	—	—	1	—	2	—	1	—	—	—	
10. Other Tuberculous Disease ... ..	—	1	3	2	4	2	6	6	2	2	7	2	—	—	3	
11. Syphilitic Disease ... ..	1	—	—	—	—	—	—	—	3	10	13	3	3	—	3	
12. Influenza ... ..	8	—	—	—	—	—	—	—	3	2	11	7	9	—	4	
13. Measles ... ..	3	2	1	—	—	—	—	—	—	—	—	—	—	—	—	
14. Acute Poliomyelitis and Polioencephalitis ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
15. Acute Infectious Encephalitis ... ..	—	—	—	—	—	—	—	3	2	—	1	2	1	—	—	
16. Cancer—all forms ... ..	—	1	1	1	—	—	2	8	45	136	253	344	131	—	92	
17. Diabetes ... ..	—	—	—	—	1	—	—	—	1	3	5	29	6	—	3	
18. Intra-cranial Vascular Lesions ... ..	1	—	—	—	—	3	—	—	10	29	139	246	189	—	61	
19. Other Nervous Diseases ... ..	54	5	3	4	5	7	4	10	25	9	19	20	9	—	17	
20. Heart Disease ... ..	3	—	2	3	8	5	14	22	58	187	367	558	431	—	155	
21. Other Diseases of Circulatory System ... ..	1	—	—	—	—	—	—	1	4	15	29	51	56	—	15	
22. Bronchitis ... ..	15	1	1	1	—	—	—	4	10	37	44	44	53	—	21	
23. Pneumonia ... ..	168	22	9	3	2	2	3	5	22	46	55	62	38	—	43	
24. Other Respiratory Diseases ... ..	4	3	—	1	—	1	—	5	8	11	17	14	14	—	7	
25. Ulceration of the Stomach and the Duodenum ... ..	1	—	—	—	—	—	—	7	16	18	18	22	1	—	8	
26. Diarrhoea (under 2 years) ... ..	400	15	—	—	—	—	—	—	—	—	—	—	—	—	41	
27. Appendicitis ... ..	—	—	2	5	3	4	—	3	1	6	2	2	2	—	3	
28. Other Digestive Diseases ... ..	9	—	5	3	2	1	2	7	13	19	38	37	28	—	16	
29. Nephritis ... ..	2	—	—	1	3	1	3	10	10	27	33	41	26	—	15	
30. Puerperal and Post abortive Sepsis ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
31. Other Maternal Causes ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
32. Premature Birth ... ..	248	—	—	—	—	—	—	—	—	—	—	—	—	—	24	
33. Congenital Malformations, Birth Injury, Infantile Diseases ... ..	241	2	1	1	1	1	—	2	1	—	1	—	—	—	25	
34. Suicide, Road Traffic Accidents and other Violent Causes ... ..	12	4	29	46	20	17	9	21	32	54	69	48	33	—	39	
35. Smallpox ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
36. All other Causes ... ..	25	7	3	5	5	10	8	17	35	92	187	252	274	—	92	
ALL CAUSES ... ..	1230	99	104	101	70	100	124	234	422	834	1396	1823	1310	—	784	



## DIFFERENT CAUSES IN SEXES AND AT SEVERAL AGE-PERIODS.

CAUSE OF DEATH.	FEMALES.													Total Females.	Total Both Sexes.
	-1	-2	-5	-10	-15	-20	-25	-35	-45	-55	-65	-75	75+		
Typhoid and Paratyphoid															
Fevers ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Cerebro-spinal Fever ...	2	—	2	—	—	2	2	1	—	—	—	2	—	11	28
Scarlet Fever ... ..	—	2	1	1	—	—	—	—	1	—	—	—	—	5	7
Whooping Cough ... ..	10	5	2	—	—	—	—	—	—	—	—	—	—	17	36
Diphtheria ... ..	2	5	11	8	3	—	—	—	1	—	—	—	1	31	62
Erysipelas ... ..	—	—	—	—	—	—	—	—	—	—	1	1	—	2	6
Tuberculosis of Respiratory															
System ... ..	10	7	5	6	17	95	121	142	68	28	16	10	3	528	1134
Tubercular Meningitis ...	5	12	13	27	22	14	9	5	1	—	—	—	—	108	194
Abdominal Tuberculosis ...	—	—	1	2	1	1	2	3	2	1	—	1	—	14	19
Other Tuberculous Disease	1	2	4	3	4	7	7	4	3	2	4	—	2	43	80
Syphilitic Disease ... ..	3	—	—	—	—	—	—	—	1	2	2	2	2	12	45
Influenza ... ..	6	1	—	1	—	1	—	4	—	1	7	8	10	39	79
Measles ... ..	6	1	3	—	—	—	—	—	—	—	—	—	—	10	16
Acute Poliomyelitis and															
Polioencephalitis ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Infectious Encephalitis															
... ..	—	—	—	—	—	—	—	—	—	—	2	—	—	2	11
Cancer—all forms ... ..	1	—	3	2	—	2	3	14	66	145	210	251	156	853	1775
Diabetes ... ..	—	—	—	—	—	—	1	4	4	9	27	40	11	96	132
Intra-cranial Vascular															
Lesions ... ..	—	1	1	1	—	—	1	4	14	59	124	246	236	687	1304
Other Nervous Diseases ...	47	5	4	4	8	1	4	8	18	13	21	9	8	150	324
Heart Disease ... ..	1	1	2	4	4	8	16	44	55	120	237	437	574	1053	3161
Other Diseases of Circulatory System															
... ..	—	—	—	—	—	—	—	1	1	11	20	43	55	131	288
Bronchitis ... ..	5	2	3	—	—	—	2	3	4	5	11	19	64	118	328
Pneumonia ... ..	123	12	8	2	1	2	3	11	7	15	28	40	42	294	731
Other Respiratory Diseases	2	—	—	—	1	—	3	3	6	6	5	8	12	46	124
Ulceration of the Stomach															
and the Duodenum ... ..	—	—	—	—	—	—	—	—	2	4	6	3	3	18	101
Diarrhoea (under 2 years)	270	16	—	—	—	—	—	—	—	—	—	—	—	286	701
Appendicitis ... ..	—	—	—	1	3	2	1	—	2	2	5	4	3	23	53
Other Digestive Diseases	6	1	4	2	—	3	1	8	12	25	32	47	40	181	345
Nephritis ... ..	—	—	2	3	—	1	4	5	14	24	30	26	21	130	287
Puerperal and Post-abortive															
Sepsis ... ..	—	—	—	—	—	1	9	19	10	—	—	—	—	39	39
Other Maternal Causes ...	—	—	—	—	—	1	7	17	23	2	—	—	—	50	50
Premature Birth ... ..	196	—	—	—	—	—	—	—	—	—	—	—	—	196	444
Congenital Malformations,															
Birth Injury, Infantile															
Diseases ... ..	158	4	1	—	—	—	1	—	—	—	—	—	—	164	415
Suicide, Road Traffic Accidents and other Violent															
Causes ... ..	9	—	13	15	6	3	4	12	14	14	23	30	56	199	593
Smallpox ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
All other Causes ... ..	15	2	3	11	4	13	8	21	52	63	116	176	286	770	1690
ALL CAUSES ... ..	878	79	86	93	74	157	209	333	381	551	927	1403	1585	6756	14603

TABLE V.—GLASGOW.—DEATH-RATES *per Million* FROM DIFFERENT CAUSES, FOR THE YEAR 1944, AND CORRESPONDING RATES FOR 1943 AND 1942.

CAUSE OF DEATH.	Annual Death-rate per Million.		
	1944	1943	1942
1. Typhoid and Paratyphoid Fevers	1	3	7
2. Cerebro-Spinal Fever ... ..	27	23	48
3. Scarlet Fever ... ..	7	5	8
4. Whooping Cough ... ..	34	86	27
5. Diphtheria ... ..	59	77	86
6. Erysipelas ... ..	6	9	7
7. Tuberculosis of Respiratory System	1,080	1,013	1,054
8. Tubercular Meningitis ... ..	185	210	180
9. Abdominal Tuberculosis ... ..	18	33	40
10. Other Tuberculosis Diseases ... ..	76	78	82
11. Syphilitic Disease ... ..	43	73	89
12. Influenza ... ..	75	196	53
13. Measles ... ..	15	30	62
14. Acute Poliomyelitis and Polio- encephalitis ... ..	—	4	6
15. Acute Infectious Encephalitis ... ..	10	25	27
16. Cancer—All forms ... ..	1,690	1,768	1,771
17. Diabetes ... ..	126	148	145
18. Intra-cranial Vascular Lesions ... ..	1,242	1,211	1,104
19. Other Nervous Diseases ... ..	309	323	339
20. Heart Disease ... ..	3,011	3,136	3,151
21. Other Diseases of Circulatory System ... ..	274	254	250
22. Bronchitis ... ..	312	306	339
23. Pneumonia ... ..	696	840	731
24. Other Respiratory Diseases ... ..	118	143	133
25. Ulceration of the Stomach and the Duodenum ... ..	96	105	85
26. Diarrhoea (under 2 years) ... ..	668	323	373
27. Appendicitis ... ..	50	33	45
28. Other Digestive Diseases ... ..	329	321	313
29. Nephritis ... ..	273	267	305
30. Puerperal and Post-abortive Sepsis	37	39	56
31. Other Maternal Causes ... ..	48	67	47
32. Premature Birth ... ..	423	410	400
33. Congenital Malformations, Birth Injury, Infantile Diseases ... ..	395	377	422
34. Suicide, Road Traffic Accidents, and other Violent Causes ... ..	565	651	759
35. All other Causes ... ..	1,610	1,594	1,491
36. Smallpox ... ..	—	—	7
ALL CAUSES ... ..	13,908	14,181	14,042

TABLE VII.—GLASGOW. DEATHS UNDER 1 YEAR, AND DEATH-RATES PER 1,000 BIRTHS IN EACH MUNICIPAL WARD, FOR THE YEARS 1942-44.

MUNICIPAL WARDS.	Deaths —1 Year.	Death Rate per 1,000 Births.		
		1944.	1943.	1942.
1. Shettleston and Tollcross ...	73	79	70	72
2. Parkhead ...	64	77	93	129
3. Dalmarnock ...	80	119	108	116
4. Calton ...	65	127	126	152
5. Mile-End ...	53	124	92	79
6. Whitevale ...	52	122	70	111
7. Dennistoun ...	36	84	60	54
8. Provan ...	92	96	91	91
9. Cowlares ...	41	92	47	81
10. Springburn ...	51	98	74	112
11. Townhead ...	81	141	94	110
12. Exchange ...	48	154	115	140
13. Blythswood ...	25	120	116	101
14. Anderston ...	54	97	91	112
15. Sandyford ...	21	59	67	110
16. Park ...	33	88	54	92
17. Cowcaddens ...	84	118	104	100
18. Woodside ...	70	109	88	114
19. Ruchill ...	104	104	81	91
20. North Kelvin ...	40	95	87	73
21. Maryhill ...	50	96	78	69
22. Kelvinside ...	20	51	48	40
23. Partick (East) ...	50	91	89	92
24. Partick (West) ...	33	74	42	75
25. Whiteinch ...	42	70	50	63
26. Hutchesontown ...	85	110	77	87
27. Gorbals ...	124	118	126	112
28. Kingston ...	63	102	95	98
29. Kinning Park ...	82	111	75	91
30. Govan ...	101	110	104	100
31. Fairfield ...	54	81	74	64
32. Pollokshields ...	61	62	55	63
33. Camphill ...	15	54	62	69
34. Pollokshaws ...	31	61	65	82
35. Govanhill ...	47	82	64	52
36. Langside ...	17	64	50	31
37. Cathcart ...	16	41	34	20
38. Yoker and Knightswood ...	40	64	54	69
Institutions ...	9	—	—	—
Harbour ...	1	—	—	—
CITY ...	2,108	95	82	90

TABLE VIII.—GLASGOW 1944—INFANT DEATHS AT GIVEN AGES AND FROM SEVERAL CAUSES.

CAUSE OF DEATH.	MALES.					FEMALES.					Total — 1 year. Both Sexes.		
	Age in Months.					Age in Months.							
	— 1	— 3	— 6	— 9	— 12	Total.	— 1	— 3	— 6	— 9		— 12	Total.
I. CONGENITAL MALFORMATIONS ... ..	52	12	4	4	2	74	36	8	2	3	—	49	123
II. DISEASES OF EARLY INFANCY—													
(a) Congenital Debility, Sclerema, and Icterus ... ..	51	18	10	1	—	80	28	7	5	1	—	41	121
(b) Premature Birth ... ..	236	12	—	—	—	248	181	15	—	—	—	196	444
(c) Injury at Birth ... ..	46	—	—	—	—	46	37	3	—	—	—	40	86
(d) Atelectasis ... ..	26	—	1	—	—	27	15	4	—	1	—	20	47
(e) Others ... ..	12	2	—	—	—	14	8	—	—	—	—	8	22
III. DISEASES OF RESPIRATORY SYSTEM ... ..	51	47	56	24	9	187	21	41	40	20	8	130	317
IV. DISEASES OF DIGESTIVE SYSTEM—													
(a) Diarrhoeal ... ..	60	99	142	73	26	400	41	53	99	47	30	270	670
(b) Others ... ..	6	—	3	1	—	10	—	—	3	3	—	6	16
V. DISEASES OF NERVOUS SYSTEM ... ..	7	17	19	8	4	55	9	20	12	4	2	47	102
VI. TUBERCULOUS DISEASES—													
(a) Pulmonary Tuberculosis ... ..	—	—	1	3	4	8	1	—	1	2	6	10	18
(b) Tuberculous Meningitis ... ..	—	—	3	2	1	6	—	—	2	1	2	5	11
(c) Abdominal Tuberculosis ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(d) Other Forms ... ..	—	—	—	—	—	—	—	—	—	1	—	1	1
VII. INFECTIOUS DISEASES—													
(a) Measles ... ..	—	—	1	—	2	3	—	—	1	2	3	6	9
(b) Scarlet Fever ... ..	—	—	—	1	—	1	—	—	—	—	—	—	1
(c) Whooping Cough ... ..	—	1	8	—	3	12	—	—	2	5	3	10	22
(d) Diphtheria ... ..	—	—	1	—	—	1	—	—	1	1	—	2	3
(e) Erysipelas ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(f) Cerebro-spinal Fever ... ..	—	—	1	3	2	6	—	—	1	1	—	2	2
(g) Varicella ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—
(h) Typhoid and Paratyphoid Fevers ... ..	—	—	1	—	—	1	1	2	—	—	—	3	4
VIII. SYPHILIS ... ..	—	—	—	—	—	—	—	—	—	—	—	—	—
IX. OVERLAYING ... ..	2	2	—	—	—	4	—	1	—	—	—	1	3
X. OTHER VIOLENCE ... ..	1	4	1	1	1	8	2	1	4	1	—	8	16
XI. ALL OTHER CAUSES ... ..	13	6	13	2	5	39	6	5	5	6	1	23	62
TOTALS	563	220	265	123	59	1,230	386	160	178	99	55	1,108	2,108





TABLE X.—GLASGOW, 1944 AND 1943.—CASES OF INFECTIOUS DISEASES REGISTERED, NUMBER TREATED IN HOSPITAL.

	1944.						1943.
	Fever Hospitals and Sanatoria.	Corporation General Hospitals.	Gartloch and Lennox Castle.	Other Institutions.	Home.	Total.	Total.
A.—NOTIFIABLE—							
Typhus Fever ...	—	—	—	—	—	—	—
Enteric Fever ...	25	—	—	—	2	27	21
Paratyphoid B ...	4	—	—	—	—	4	23
Continued and Undefined Fever ...	4	—	—	—	—	4	4
Puerperal Fever ...	290	31	1	12	3	337	417
Puerperal Pyrexia ...	90	40	—	56	20	206	276
Smallpox ...	—	—	—	—	—	—	—
Scarlet Fever ...	2,725	1	—	20	670	3,416	3,115
Diphtheria and Membranous Croup ...	2,364	1	—	2	10	2,377	2,919
Erysipelas ...	268	6	—	7	283	564	710
Cholera ...	—	—	—	—	—	—	—
Cerebro-spinal Fever ...	121	1	—	1	6	129	123
Ophthalmia Neonatorum	51	10	—	6	465	532	622
Trachoma ...	—	4	—	—	7	11	3
Acute and Chronic Enceph. Lethargica	2	1	—	—	—	3	9
Acute Poliоencephalitis	1	—	—	—	—	1	1
Acute Poliomyelitis ...	21	—	—	1	2	24	2
Acute Primary Pneumonia ...	2,965	896	27	123	1,669	5,680	6,728
Acute Influenzal Pneumonia ...	35	11	—	1	43	90	189
Malaria ...	9	4	—	—	3	16	15
Dysentery ...	832	4	9	17	397	1,259	438
Infective Jaundice ...	—	—	—	—	—	—	3
Anthrax ...	1	—	—	—	—	1	—
Pulmonary Tuberculosis	1,062	—	—	—	1,696	2,758	2,778
Other Forms of Tuberculosis ...	203	—	—	—	468	671	735
B.—NOT NOTIFIABLE							
Measles ...	619	10	—	—	5,735	6,364	7,843
German Measles ...	44	1	—	1	672	718	3,950
Whooping Cough ...	269	3	—	—	3,418	3,690	5,589
Chickenpox ...	245	14	—	—	7,256	7,515	5,594
Mumps ...	93	2	—	—	14	109	4
Pemphigus Neonatorum	39	—	—	—	11	50	58
Leprosy ...	—	—	—	—	—	—	—
TOTALS ...	12,382	1,040	37	247	22,850	36,556	42,169
Notified, but diagnosis altered to Non-Infectious Diseases ...	1,939	—	—	—	—	1,939	1,922
TOTAL REGISTERED	14,321	1,040	37	247	22,850	38,495	44,091

\* Where patients suffer from two or more diseases, each disease is reckoned as a case.

Apart from cases of pneumonia admitted to Corporation General Hospitals and Voluntary Institutions in times of pressure; cases of puerperal fever, puerperal pyrexia, and ophthalmia neonatorum occurring in other than Fever Hospitals and allowed to remain; and cases of trachoma treated in Stobhill Hospital; the cases shown under the headings "Corporation General Hospitals" and "Other Institutions" are, for the most part, accidental.

## PART II

### FEVER AND TUBERCULOSIS HOSPITALS.

During the year 1944 the number of patients treated to a conclusion in the four hospitals for infectious diseases was 12,940, a decrease of about 700 on the preceding year. The over-all mortality rate remained at the same level, namely 6·0 per cent. A further 860 cases of tuberculosis were treated at Ruchill and Knightswood Hospitals.

*Scarlet Fever.*—Almost the same total number of cases (2,735) was dealt with as in 1943. There were only seven deaths. The average days residence in hospital remains high (33 days). In view of modern knowledge of the infectivity of the disease and the almost complete absence nowadays of nephritis as a complication, this seems unduly long. The routine treatment was with Scarlet Fever Antitoxin (in one hospital 74 per cent. were given this serum), the sulphonamides being reserved for use against invasive or septic manifestations.

From the point of view of the child's future, one of the most serious of the complications is the occurrence of otorrhoea. An analysis of 305 proved cases of scarlet fever treated at Knightswood Hospital showed a total incidence of inflammation of the middle ear in 21 per cent. This total was made up of non-suppurative otitis, 16·7 per cent., and suppurative otitis, 4·3 per cent. There is little doubt that much of this inflammation is due to cross-infection from other patients in the ward. For the purpose of investigating this point the cases showing the complication were divided into "early" and "late" according to whether the complication developed before or after the 7th day in hospital. It might be assumed, when the condition appeared before the 7th day, that it was indeed a complication of the primary infection, whereas after that time the most likely cause would be inter-patient cross-infection.

Total Before 7th Day.		Total After 7th Day.	
Catarrhal Otitis (non-suppurative)	Suppurative Otitis.	Catarrhal Otitis (non-suppurative).	Suppurative Otitis.
37	11	13	3

Only three patients developed a suppurative otitis in hospital after the 7th hospital day. This low incidence may be ascribed partly to the removal of all infective cases rigidly from contact with clean convalescents; and partly to the use of sulphonamides immediately on the diagnosis of any inflammation of the drum head. There is little doubt that but for the latter treatment many of the 13 "late" catarrhal cases would have become suppurative. It should be noted that a quarter of all the cases which showed invasion of the middle ear cleft developed the complication after 7 days in hospital, which suggests a fair degree of latent cross-infection. The highest incidence was in those under 10 years of age.

*Diphtheria*.—A further drop in the incidence of this disease is shown by the fact that there were 644 fewer cases (2,514) than in 1943. The mortality was again low, namely 2.6 per cent. The altered diagnosis rate was 16 per cent. but varied from hospital to hospital: in one it was as high as 28 per cent. Undoubtedly, the

increased number of immunised persons has increased the number of admissions with atypical appearances on the throat and this calls for greater care in the assessment of the cases. One of the major necessities in this respect is a considerable increase in the isolation accommodation of all the hospitals. It is becoming increasingly the practice for general practitioners and for members of the Public Health Staff to ask for the admission of suspicious cases and the present limited isolation accommodation makes administrative procedures difficult in the extreme. *C. diphtheriae* (gravis) continued to be the most prevalent infecting sub-type.

*Pneumonia*.—There were 2,674 cases, with 260 deaths, a fatality rate of 9.7 per cent. It would seem that, for the usual age distribution of the cases admitted to hospital, this represents the normal result to be expected from sulphonamide therapy, for there has been little change in the rate during the past few years. That the fatality rate is entirely dependent on the age-distribution of the cases treated is well shown by the following figures for the cases treated this year. The highest rates are encountered at the extreme age groups.

	Age Group (Years).										
	0—1	—2	—3	—4	—5	—10	—15	—25	—35	—45	45—
Fatality Rate											
per cent. ...	20.0	8.7	4.2	4.6	1.0	1.8	0.6	2.7	1.9	7.9	20.0



Indeed, no less than 74 per cent. of the deaths from pneumonia in the four hospitals occurred under the age of a year or over the age of 45 years. This point is particularly stressed, so far as the adult is concerned, in the Report on the treatment of 1,949 cases of pneumonia drawn up by seven workers in the different hospitals, and published by the Committee on Health during the year. Such a finding has administrative importance: for, if the results are to be improved further, then earlier specific treatment is particularly necessary and priority of admission should be given to those in the two dangerous age groups. The admission to hospital of such patients should be regarded as a matter of urgency.

The typing of the infecting pneumococcus has been carried out on a much reduced scale owing to the difficulty in obtaining supplies of serum from America. Sufficient is known, however, to confirm that type II pneumococcal infections still remain the most prevalent Glasgow infection.

In the autumn, Knightswood Hospital became a distributing centre for penicillin to the fever hospitals in the West of Scotland. An attack was made in this hospital with the new therapeutic agent upon pneumonia in the older age groups with encouraging results.

#### INFECTIONS OF THE BOWEL.

(a) *The Enteric Group*.—There was no unusual occurrence of the typhoidal infections during the year. Only 40 cases were dealt with: the infections were of a mild type and there was only one death.

(b) *Dysentery Group*.—Over the whole country there has been a considerable increase in the incidence of bacillary dysentery. Although by no means all of the cases are dealt with in hospital, this increase is reflected in the fact that more than double the number of cases (871) was treated this year than last. Fortunately the illness was, as a rule, a mild one; indeed, many of the cases were clinically recovered by the time of admission to hospital. But the time taken to secure bacteriological cure was much longer. Sulphaguanidine and sulphasuccidine were used in treatment with, on the whole, good results. Some difficulties arose, however, in regard to convalescent carriers, some of whom required several courses of treatment before the organism was cleared from the bowel. Sonne infections were most prevalent; Flexner made up the bulk of the remainder, but some Newcastle infections appeared sporadically towards the end of the year.

(c) *Gastro-enteritis of Infancy.* The fever hospitals played a considerable part in coping with the serious outbreak of this disease which occurred in the late summer, and of the total of 541 cases 283 were admitted to the four fever hospitals. The severity of the illness varied greatly from case to case and also at different stages of the epidemic. The most severe infections seemed to occur as the epidemic reached its peak, whereas as the number of cases declined the severity greatly lessened. In view of the grave nature of this infection, the following account is given of 87 cases admitted to one of the hospitals.

TABLE I.

AGE DISTRIBUTION, CLINICAL SEVERITY AND DEATHS OF 87 CASES OF GASTRO-ENTERITIS IN INFANCY.

Age Group.		Total Number of Cases.	Number regarded as severely ill.	Number of Deaths.
0—3 months	...	15	11	6
—6	„ ...	21	7	6
—9	„ ...	10	4	2
—12	„ ...	13	2	2
12+ months	...	28	6	—
Total ...	...	<u>87</u>	<u>30</u>	<u>16</u>

Table I shows the age-distribution of the cases and makes it clear that this is a disease which strikes most frequently, and in its most severe form, the youngest of the children. All of the deaths occurred in babies under a year; and 24 out of the 30 classified as severely ill were under nine months.

Intensive search was made to detect the presence of any known pathogen, common to all cases, in the stomach or bowel contents. In particular, a detailed autopsy examination was made in 15 of the 16 deaths that occurred in this particular series. So far as the examination permitted, no consistent evidence was found which incriminated any particular bacterial agent. The one feature which characterised almost all of the babies who died, was the presence of a parenteral infection which seemed to have played some part in determining the death of the child. Table II. shows that bacterial infections outside of the bowel were present in a high proportion of the cases.

TABLE II.

INCIDENCE OF PARENTERAL INFECTION IN 87 CASES OF  
GASTRO-ENTERITIS.

	Infections of the Middle Ear.		Broncho- Pneumonia.
	One Ear.	Both Ears.	
Present on Admission ... ..	15	19	37
Developed while in Hospital ...	9	12	5
Total ... ..	<u>24</u>	<u>31</u>	<u>42</u>

.24 out of 87 cases showed no parenteral infection.

In no less than 31 of the children evidence of acute inflammation in the middle ear was present on one or both sides : in almost half of the cases the lungs were involved in a condition indistinguishable from broncho-pneumonia. The importance of the parenteral infection is suggested by the finding that in 13 of the babies who died there was evidence, post mortem, of infection of the middle ear or mastoid process. In all cases the bacteria isolated (Table III) were those which might normally be expected in the upper respiratory tract, especially in children who were vomiting.

TABLE III.

## ORGANISMS ISOLATED POST MORTEM.

Pneumococcus ... ..	7 cases.
H. influenzae ... ..	2 „
S. pyogenes ... ..	1 case.
S. viridans ... ..	2 cases.
Staphylococcus ... ..	2 „
B. coli ... ..	6 „
No growth ... ..	1 case.

(In some cases more than one organism was present).

That these secondary infections were of some importance in the cause of death was strongly suggested by the finding in eight cases of micro-organisms of exactly similar type in more than one situation in the body. In some there was conclusive evidence that a bacteriaemia had been present, the organism being the same as that present in the middle ear. It should also be noted from Table II that 26 of the infants developed the parenteral infection after admission to hospital. These cases had all to be nursed in open wards. In infants under one year the risk of cross-infection (of which otitis media is an excellent example) is particularly high, and

its occurrence is likely to be most dangerous. Although such precautions were taken as the wearing of masks and gowns by the nurses and the use of basins with disinfectant for cleansing the hands, it is clear that a considerable amount of cross-infection occurred. For the effective management of this disease nursing in single-cot isolation compartments is clearly essential.

One further examination may be mentioned. The striking clinical feature of gastro-enteritis is the extreme dehydration of the infant due to the loss of fluid and salts from the body. Such severe dehydration should result in a rise of the blood haemoglobin due to concentration of the blood from this loss of fluid. Table IV shows, in a series of 61 cases which had an accurate haemoglobin estimation (by photo-electric absorptiometer) carried out shortly after admission, that most of the values were slightly lower than the average normals for the different ages. Now, if haemoglobin concentration had taken place in these babies then the haemoglobin value prior to the onset of the infection must have been even lower. These, admittedly limited, observations suggest that the infection was associated with a precedent degree of anaemia.

TABLE IV.

## HAEMOGLOBIN VALUES IN GASTRO-ENTERITIS.

Age Group.					Gastro-Enteritis Cases.	Normal Values.
0—3 months...	...	...	...	...	11.0	12.4 g.
—6	„	...	...	...	11.5	11.4 g.
—9	„	...	...	...	11.0	11.9 g.
—12	„	...	...	...	11.0	12.1 g.
12+ months	...	...	...	...	11.15	13.0 g.

*Puerperal Infections.*—These cases are almost entirely dealt with at Belvidere and Dr. Archibald has supplied the following figures. During the year, 213 cases were treated in the puerperal wards; 14 deaths occurred but in four, death was not due to any puerperal condition. The over-all fatality rate was, therefore, approximately 4.7 per cent. In 62 proved cases of puerperal sepsis, five deaths occurred, giving a fatality rate of approximately 8 per cent. (The apparent discrepancy between the above figures and those in the general tabular statement is due to the fact that non-septic abortions are not included in the latter.)

Complications were as follows :—Phlegmasia, 7 ; Parametritis, 7 ; Severe Anaemia, 6 ; Mastitis, 9 ; other, 15.



*Puerperal Pyrexia.*—A total of 39 cases was treated with 3 deaths. Mastitis was the chief complicating factor in 24 cases. The fatal cases were all due to acute tuberculosis.

*Abortions.*—A total of 106 cases was treated with 5 deaths. These are analysed as follows :—

Threatened Abortion ... ..	11
Incomplete Abortion (a) simple ...	12
(b) septic ...	34
Complete Abortion (a) simple ...	10
(b) septic ...	32

*Venereal Diseases.* Dr. Archibald has also supplied the following account of these cases treated at Belvidere. 217 patients received indoor treatment and were discharged within the year, 10 being cases of double infection. As regards the age incidence of new cases, 26 were from 15 to 25 and 61 over 25 years of age.

The average duration of residence in cases discharged was 36 days. The cases were classified :—

Syphilis ... ..	101
Gonorrhoea ... ..	84
Soft Chancre ... ..	14
Non-specific V.D. ... ..	25
Not V.D. ... ..	3
Total ... ..	<u>227</u>

A study of the treatment of sulphonamide-resistant gonorrhoea by artificial fever and sulphadiazine was begun in November. The problem of such cases was then of special urgency, as periods of residence in hospital of six weeks were common. The aim was to give each patient a six day course of 52 gm. sulphadiazine and, within this period, two prolonged fever sessions, each of at least six hours above 104°F. T.A.B. prophylactic vaccine was given by intravenous drip ; experience and analysis of the early cases led to the establishment of a scheme for the prediction of the maintenance dose for each individual. Therapeutic hyperpyrexia lasting 5-8 hours was obtained in 55 per cent. of all treatments. With careful management the method proved safe.

During 1944 twenty-two patients received a total of forty treatments. Twelve achieved satisfactory pyrexia in the first or

second treatment, and had apparent clinical cure. These included two penicillin-resistant cases.

The stay in hospital of this class of patient has been progressively reduced, and in uncomplicated gonococcal infections, where satisfactory fever was achieved, was approximately ten days. In the others, further routine treatment was required. Such chemo-fever therapy has been found highly specific in three cases of soft sore with bilateral bubo, each being dismissed in twelve days. Further improvement in vaccine fever technique may lead to its application to a wider variety of diseases. It is hoped that penicillin will shortly be available; it is proposed to reserve its use for those cases unsuited to fever therapy.

*Meningococcal Infections.*—The prevalence of these infections continues to decline although the incidence still remains above that of the pre-epidemic level. Of the 135 cases dealt with 31 died, giving a fatality rate of 22·2 per cent. The two more unusual manifestations of infection (acute fulminating, and chronic, meningococcal septicæmia) continue to appear occasionally. In the former, treatment is quite unavailing, but sulphonamides achieve a rapid result in the latter. Just over half of the meningeal cases were under the age of five years. As with pneumonia, it would seem that there is a relationship between age and the results of chemotherapy, for here, too, the poorest results are obtained in the very young and the older patients. Towards the end of the year, penicillin was tried in a small number of cases, but it is still too early to assess the results.

*Other Infectious Diseases.*—These comprised a total of over 3,800 cases, but no particular infection calls for special comment. Neither *measles* nor *whooping cough* was received in large numbers: but it is interesting to note that the whooping cough mortality rate was only 7·0 per cent.—a figure much lower than usual. *Erysipelas*, with a fatality rate of 1·0 per cent., remains an infection of comparatively little importance now that it is so quickly and completely controlled by sulphonamide drugs. The increased incidence of tuberculosis in the city was reflected in the admission of over 150 cases of *tuberculosis meningitis*, usually notified as cases of cerebrospinal fever. Chemotherapy, with a derivative of the sulphone series, was tried on a group of these cases without any success.

STATEMENT OF CASES RELATED ACCORDING TO SEX DATA BASED ON DISMISSALS AND DEATHS FOR YEAR 1944.

	Admitted.		Dismissed.		Died.		M'tality per cent.	Av. Residence.		Dismissals & Deaths.					Altered Diag- nosis.		Ruchill.		Belvidere.		Knightswood.		Shieldhall.	
	M.	F.	M.	F.	M.	F.		M.	F.	—5	—15	15	15	15	Dis- missals.	Deaths.	Dis- missals.	Deaths.	Dis- missals.	Deaths.	Dis- missals.	Deaths.	Dis- missals.	Deaths.
Typhus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	30	5	30	2	1	1	3-2	74	12	—	3	30	—	—	43	—	27	1	2	—	3	—	—	—
Paratyphoid Fever	3	4	3	4	—	—	45	45	—	—	2	5	—	—	14	—	2	—	3	—	2	—	—	—
Continued and Undefined Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox (Contacts)	53	130	53	123	—	—	8-2	24	13	1	1	2	—	—	37	—	—	—	122	10	1	—	—	—
Scarlet Fever	1,276	1,489	1,242	1,486	2	2	0-2	33	7	888	1,615	232	—	—	145	—	821	1	1,181	3	53	—	—	—
Diphtheria and Mem. Croup	970	1,471	983	1,466	32	33	2-6	47	8	680	1,220	6,111	—	—	402	—	1,149	28	992	29	313	1	413	2
Erysipelas	105	172	104	178	1	2	1-0	18	5	16	14	255	—	—	64	—	248	3	—	—	89	3	219	5
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cerebrospinal Fever	75	61	55	49	18	13	22-2	27	16	68	18	49	—	—	566	—	72	15	28	12	3	4	1	—
Trachoma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Poliomyelitis	1	1	1	1	—	—	—	78	—	—	—	1	—	—	3	—	1	—	—	—	—	—	—	—
Acute Polioencephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Acute Primary Pneumonia	16	10	17	10	182	78	9-7	63	9	15	5	7	—	—	9	—	16	—	6	—	4	—	—	—
Acute Influenzal Pneumonia	1,774	928	1,584	830	3	3	9-1	31	10	992	455	1,227	—	—	609	—	1,053	104	753	93	412	45	196	18
Malaria	19	11	23	17	3	1	—	28	10	2	3	39	—	—	9	—	17	2	11	1	12	1	—	—
Dysentery	14	44	14	421	4	3	0-8	21	23	—	—	14	—	—	1	—	14	—	—	—	—	—	—	—
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pulmonary Tuberculosis	81	59	56	51	25	13	26-2	50	35	20	193	244	—	—	80	—	220	1	393	2	183	2	68	2
Other forms of Tuberculosis	69	96	4	6	66	88	93-9	31	10	47	21	104	—	—	—	—	61	17	17	18	26	3	—	—
Measles	326	306	314	294	5	5	1-6	23	8	434	88	96	—	—	65	—	312	7	196	37	2	4	1	—
German Measles	69	38	74	37	12	10	7-0	54	18	11	7	93	—	—	11	—	13	—	1	1	55	1	45	1
Whooping Cough	118	143	132	160	12	10	—	24	40	277	37	38	—	—	38	—	126	12	60	4	33	6	5	—
Chickenpox	142	104	134	102	1	1	0-8	24	40	113	60	65	—	—	10	—	9	—	121	4	37	1	8	—
Mumps	75	54	74	53	2	1	0-8	57	46	20	24	83	—	—	15	—	36	—	208	1	16	1	3	—
Veneral Diseases	216	130	228	131	2	1	—	19	—	22	6	334	—	—	—	—	142	3	217	—	28	—	6	—
Babies with Mothers	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No apparent Disease	65	24	71	25	—	—	—	13	—	40	19	37	—	—	—	—	69	—	1	—	1	—	—	—
Others	1,036	789	894	659	122	89	11-4	26	17	869	363	532	—	—	—	—	586	104	641	63	301	40	10	—
Influenza	39	18	42	14	—	2	3-4	14	7	5	29	24	—	—	—	—	5	2	30	20	20	25	4	—
Puerperal Pyrexia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mothers with Babies	7	5	7	5	—	—	—	25	21	11	1	41	—	—	—	—	7	—	29	2	3	—	—	—
Pemphigus Neonatorum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Unclassified (Staff)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax	1	29	—	24	—	2	7-7	20	32	—	—	26	—	—	—	—	10	2	7	—	5	—	—	—
Air Raid Casualties	1	—	1	—	—	—	—	19	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—
Infective Jaundice	1	—	—	—	—	—	—	31	—	—	—	2	—	—	2	—	—	—	—	—	—	—	—	—
Leprosy	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Contacts (in Quarantine)	161	—	161	—	—	—	—	5	—	—	—	161	—	—	—	—	104	—	—	—	48	—	9	—
Total	7,199	6,567	6,748	6,192	476	359	6-0	33	13	4,968	4,252	4,555	2,208	5,128	414	5,101	276	1,687	112	1,024	33	—	—	—
Phthisis	446	437	335	363	100	62	18-8	142	106	25	82	753	—	—	626	113	—	—	—	—	72	49	—	—

## ROBROYSTON HOSPITAL.

The report submitted, while brief, gives an outline of the work of the hospital during the past year.

*Accommodation.*—Apart from one ward in the emergency hospital and one pavilion in the original institution retained for resuscitation of air raid casualties, all the beds were fully utilised throughout the year. These totalled 720, and the usual reserve was retained for the treatment of smallpox. The total number of patients discharged from the various wards during 1944 was 1,721, this being the highest total in the history of the hospital.

*Pulmonary Tuberculosis.*—There was a considerable increase in the number of patients discharged during 1944 and the following rough classification suggests the salient features :—

	Total.	Died.
Lesions classified as early ...	66	—
Lesions classified as intermediate ...	119	10
Lesions classified as advanced ...	252	138
	<hr/> 437	<hr/> 148
	<hr/>	<hr/>

It must be obvious that the type of disease admitted offered relatively little scope for the full employment of the modern curative methods readily available in the hospital. Nevertheless, a stage has been reached when the patients admitted are aware of what has been done on these lines, and a majority expect some active interference in their own illness. The following figures should therefore be interpreted in the light of what has been said. Artificial pneumothorax was attempted on 221 occasions but for 58 patients the operation was immediately found to be impossible. A further 48 achieved a degree of technical success, but not great enough to justify their having the collapse maintained longer than three months. The remaining 115 were, to a considerable extent, effective, though, in a considerable number, minor or major auxiliary measures were necessary later in their clinical courses. Interruption of the phrenic nerve was practised in 95 instances, very often to control contralateral disease, and there were 65 thoracoscopic examinations, with divisions of adhesions, done on 53 patients. Thoracoplastic operations were necessary for 35 patients, involving 63 operations. Other thoracic operations (bronchoscopy, drainage of empyemata, and intracavitary drainage) brought the total number done in this department to 229, which represents the heaviest year since the unit was established in 1934.



*Non-pulmonary Tuberculosis.*—The appended table gives the scope of the work done and for convenience there is attached a summary of the operative work of all departments :—

	Total.	Deaths.	Operations.
Tuberculosis of spine ... ..	63	11	4
Tuberculosis of hip ... ..	25	1	3
Tuberculosis of bones other than spine ...	19	—	4
Tuberculosis of joints other than hip ... ..	36	—	13
Genitourinary tuberculosis ... ..	42	1	96
Abdominal tuberculosis ... ..	26	2	—
Tuberculosis of lymphatic nodes ... ..	2	—	4
Multiple and miscellaneous lesions ... ..	11	4	11
Non-tuberculous or admission for observation	9	1	13
Operations on thorax ... ..	See separate par.		229
Operations connected with puerperal sepsis ...	See separate par.		115
Operations connected with Category 23 ...	See separate par.		355
	<u>233</u>	<u>20</u>	<u>847</u>

*Puerperal Sepsis and Pyrexia.*—The following table very briefly summarises the past year's work :—

	Total.	Deaths.
(1) Puerperal sepsis following the birth of a viable child ...	182	9
(2) Puerperal sepsis following the birth of a non-viable child	103	6
(3) Abortions (non-septic) and other conditions ... ..	109	2
Total ... ..	<u>394</u>	<u>17</u>

There was no material change in the work of this Ward, which has dealt with puerperal sepsis and pyrexia since 1930. The mortality in general remained gratifyingly low in Group 1 at 4·9 per cent., the death rate from septic abortion and its complications being a little higher at 6 per cent. The operative work involved was less than in 1943. A full trial was made of sulphamethazine during the year, but the impression formed was that it could in no way displace sulphadiazine, which remained the drug of choice, where one of the sulphonamides was thought necessary. Penicillin was used once, but without success; it is not at all improbable that this experience may prove to be a common one in certain puerperal and post-abortion infections.

*Pneumonia.*—The total number of patients discharged from a ward of 30 beds given over to the treatment of pneumonia on females was 305, divisible as follows :—

	Total.	Deaths.
(1) Acute primary pneumonia ... ..	118	5
(2) Bronchopneumonia ... ..	36	8
(3) Pulmonary tuberculosis ... ..	51	5
(4) Acute pleurisy (tuberculosis) ... ..	29	—
(5) Other respiratory diseases ... ..	24	1
(6) Various conditions ... ..	45	5
(7) No abnormality found ... ..	2	—
	<u>305</u>	<u>24</u>

Little comment is necessary. In Groups 1 and 2 there were few complications. Empyema occurred twice and necessitated surgical interference. The high death rate in Group 2 is accounted for by the high age of all but one of those dying. Treatment followed the usual lines, and as in puerperal sepsis, sulphamethazine was shown to possess no advantage over more established sulphonamides. The large number of tuberculous patients admitted is noteworthy, and the disposal of these patients constituted a major internal problem.

*Gynaecology.*—A ward has been steadily occupied with patients transferred from the waiting lists of the general hospitals. During the year under review, 372 patients were discharged and 355 operations undertaken.

### MEARNSKIRK HOSPITAL.

During 1944 there was a general increase in the work of the hospital. The number of tuberculous patients treated was a little lower than during the previous year and was about three-fifths of the usual pre-war figure. There was an increase of approximately one thousand in the number of service patients treated under the Emergency Medical Scheme. A fall in the number of civilians admitted from the waiting-lists of voluntary hospitals was accounted for by the cessation of this branch of the service at mid-year, practically all the patients in this category having been admitted before June, 1944. The total admissions and dismissals are shown in the following table :—

PATIENTS ADMITTED AND DISMISSED OR DIED IN HOSPITAL  
DURING 1944.

	Tuberculous Patients.	Service Patients.	Civilian Waiting List Transfers.	Total.
In residence at 1st January	328	412	14	754
Admitted during the year ...	339	6,722	228	7,289
Dismissed or died ... ..	314	6,753	241	7 308
In residence at 31st December	353	381	1	735

The type of case dealt with is shown in the following table of admissions :—

Tuberculosis ... ..	339
Gynaecological Conditions ... ..	228
Ear, Nose, and Throat Conditions ... ..	817
Eye Conditions ... ..	201
Medical and Surgical Conditions ... ..	5,704
Total ... ..	<u>7,289</u>

During the year 1,502 out-patient attendances were recorded. This figure was made up as follows :—

Tuberculous Patients ... ..	800
Ear, Nose, and Throat Department ... ..	98
Eye Unit ... ..	9
Physio-therapy Department ... ..	84
Medical and Surgical Conditions ... ..	511
Total ... ..	<u>1,502</u>

Of the 314 tuberculous patients who were dismissed or died in hospital during the year, 250 had pulmonary tuberculosis and 64 had non-pulmonary lesions. Of the total, 234 completed the prescribed course of treatment and of these 113 were dismissed with the disease quiescent, while 43 were in improved condition and 78 were much improved. Of the remaining 80 patients, 41 died, 34 were dismissed at their own request or at the request of relatives, while 5 were transferred to other institutions with the disease still active. Of the deaths, 4 occurred in patients with advanced bilateral pulmonary disease, the remaining 7 deaths occurred in patients with very active, very extensive or multiple non-pulmonary lesions, and their deaths resulted from

toxaemia, amyloid disease, tuberculous meningitis, or acute military tuberculosis.

The average duration of residence for the tuberculous patients was 332 days.

In the interests of brevity the work of the hospital can best be summarised by outlining the work of its main departments.

*Surgical Operations.*—Despite the fall in the number of civilian scheme patients, there was an increase in the total work undertaken in the operation theatres. In all, 2,547 procedures were carried through. This total included 1,534 major operations, 306 minor operations, 593 special examinations—including cystoscopy and sigmoidoscopy—and 114 major surgical dressings. The nature of the operations and the categories of the patients treated are shown in the following table :—

Operations.		Tuberculous Patients.	Service Patients.	Civilian Scheme Patients.	Staff.	Total.
<i>Major Operations—</i>						
Abdominal ...	...	—	324	—	—	324
Rectal ...	...	1	74	—	—	75
Genito-Urinary ...	...	2	78	—	—	80
Gynaecological ...	...	—	25	180	1	206
Orthopaedic ...	...	12	123	—	—	135
Ear, Nose, and Throat		13	552	1	2	568
Ophthalmic ...	...	—	44	17	5	66
Thoracic ...	...	1	1	—	—	2
Miscellaneous ...	...	—	78	—	—	78
Total ...	...	29	1,299	198	8	1,534
<i>Other Procedures—</i>						
Minor Operations ...		17	289	—	—	306
Theatre Examinations		6	578	7	2	593
Theatre Dressings ...	...	—	114	—	—	114
Total ...	...	23	981	7	2	1,013
Grand Total ...	...	52	2,280	205	10	2,547

Anæsthetics to the number of 1,871 were administered, of which 748 were generals, 321 were spinals, and 802 were locals. Of the total



1,528 were given for major operations. The latter figure is six short of the total number of major operations because six patients had two operations under one anaesthetic.

Anaesthetic.			Major	Minor	Theatre	Theatre	Total.
			Operations.	Operations.	Examinations.	Dressings.	
General—							
Inhalation	...	...	490	51	12	22	575
Intravenous	...	...	61	110	1	1	173
Spinal	...	...	290	—	31	—	321
Local	...	...	687	92	23	—	802
Nil	...	...	—	53	526	91	670
Total	...	...	<u>1,528</u>	<u>306</u>	<u>593</u>	<u>114</u>	<u>2,541</u>

The theatre staffs also undertook 1,294 minor operative procedures and surgical dressings mainly for the treatment of out-patients and members of the nursing staff.

*Plaster of Paris Work.*—In the plaster rooms 585 plaster splints were made and these included 21 spinal jackets, 32 hip spicae, 356 leg plasters, and 176 arm plasters. In addition, 16 plaster casts were made as a first stage in the construction of certalmid or celluloid splints.

*Splint Department.*—In this department splints and other orthopaedic appliances were made, repaired, or adjusted for civilian and service patients resident in hospital or attending as out-patients. The work of the year included the making of 106 new splints in certalmid, celluloid, aluminium, or leather and iron. Boots were altered in 318 cases by raising, tilting, or fitting metatarsal bars. In addition, 72 crutches were made and 61 were padded, while 57 walking rollers were constructed for walking plasters and 138 treads were fitted. Other appliances or fittings to the number of 120 were made while 115 major adjustments were undertaken and 453 repairs were carried out.

*X-ray Department.*—The work of this department showed a further increase, particularly in the number of scheme patients examined and in the number of routine X-ray examinations of members of the nursing staff. In all, 5,340 in-patients, 455 out-patients, and 590 members of the staff were examined. Skiagrams to the number of 12,611 were taken and 352 screen examinations were made. Of the patients, 1,677

were tuberculous subjects and of these 338 attended as out-patients. The total work undertaken is shown in the following table :—

			Tuberculous Patients.	Scheme Patients.	Staff.	Total.
In-Patients	...	...	1,339	4,001	590	5,930
Out-Patients	...	...	338	117	—	455
Screenings	...	...	340	11	1	352
Skiagrams ...	...	...	2,674	9,107	830	12,611

*Dental Department.*—The visiting dentist examined 554 patients, of whom 421 were tuberculous subjects. Of the total, 322 received dental treatment, and of these 128 required extractions, 237 teeth being extracted, while 194 were treated conservatively. The anaesthetics used for the patients who had extractions were local in 116 cases and general in 12. In the case of the extractions 108 were carried out in the Dental Department, while the remaining 20 received treatment in the Wards. All the conservative work was done in the Dental Department and was as follows :—Fillings, 146 in 112 patients ; dressings, 62 in 48 patients ; and scalings, 34. The work of the department is shown in the following table :—

		EXTRACTIONS.						CONSERVATIVE TREATMENT			
	Number of Patients.	Examined	Treated.	General Anaesthesia.	Local Anaesthesia.	TOTAL.		Fillings.	Dressings.	Scalings.	TOTAL.
Tuberculous Patients ...	421	186	235	10	87	97	96	30	12	138	
						(206)	(126)	(42)	(12)	(180)	
Scheme Patients ...	133	46	87	2	29	31	16	18	22	56	
						(31)	(20)	(20)	(22)	(62)	
Total ...	554	232	322	12	116	128	112	48	34	194	
						(237)	(146)	(62)	(34)	(242)	

In the above table in the Section on Treatment the number of patients is shown and the lower figure, in brackets, indicates the number of extractions or treatments.

*Laboratory.*—A total of 5,500 specimens were submitted for bacteriological or pathological investigation. Of these, 75 per cent. were from service patients and 25 per cent. were from civilian patients. The work of the laboratory has been showing a steady increase during the past few years.

*Physiotherapy Department.*—On 1st January 72 patients were receiving physical treatment. During the year 1,121 new patients were accepted for treatment and 1,090 were discharged, leaving 103 still undergoing treatment at 31st December. Of the patients, 1,029 were scheme cases and 92 were from the parent hospital. In all, 35,456 treatments were given as follows :—Massage, 4,958 ; medical gymnastics, 15,949 ; medical electricity, 1,402 ; heat therapy, 12,152 ; ultra-violet ray therapy, 995.

*Education.*—During the year 82 children were admitted to the school and 78 were discharged. The average number of scholars on the roll was 86·1, with an average attendance of 70·5. The children received half-time instruction in the subjects of the ordinary school curriculum from two full-time teachers. The work was almost entirely individual, the children being bed patients of ages ranging from 6 to 16 years.

### PART III.

#### OUTDOOR MEDICAL SERVICES AND GENERAL HOSPITALS.

OUTDOOR MEDICAL SERVICES.—The following table shows the work done by the medical staff as compared with the two previous years :—

			Visits.	Consultations.
1942	...	...	35,821	113,841
1943	...	...	36,861	107,238
1944	...	...	35,517	100,380

The total amount of service expressed in units was 192,014, as compared with 202,248 in 1943, a reduction of 0·5 per cent. The corresponding reduction in 1943 was 1·4 per cent. Of the total services rendered, 178,525 units represented the work of the medical officers on full-time service, a proportion of 93·0 per cent. (One consultation at a clinic is reckoned as 1 unit, one domiciliary visit  $2\frac{1}{2}$  units, and one session at a Welfare Department  $2\frac{1}{2}$  units.)

The decline in the amount of work by the medical officers was very small as compared with the previous year, but for comparison attention is drawn to the figures for the peak year of 1938, when the number of visits paid was 74,944 and there were 300,048 consultations at clinics. The total number of units of service was 488,402. The decline in the amount of work, as represented by units of service, from the peak figure in 1938 to that of the present year has been brought about by the diminishing numbers of persons in receipt of poor law relief, but it is fair to state that during 1938 the pressure of work and the overcrowding at the clinics were excessive, and also that the number of full-time medical officers has declined from 31 to 22.

One of the principal difficulties confronting the Service was the insufficiency of hospital accommodation, and a waiting list had to be established. Supervision of this waiting list and the assessment of priority for admission are duties undertaken by the Outdoor Medical Officers and the nursing staff.



GENERAL HOSPITALS.—The following table shows the average daily number of patients in residence in the four general hospitals and the highest and lowest numbers :—

	Stobhill.	Eastern District.	Western District.	Southern General
Average daily number in residence in 1944 ... ..	1,484	277	261	812
Highest number in residence in 1944	1,633	307	303	1,065
Lowest number in residence in 1944	1,254	252	217	679
Residence on 31st December, 1944	1,446	284	254	812

On 31st December, 1943, the number of patients in residence in hospital was 2,831 whereas the corresponding figure at the end of 1944 was 2,796. The number of admissions in 1944 was 35,133, which was 152 in excess of the admissions during the previous year. The last pre-war figure was 28,192 in 1938.

A scrutiny of the hospital statistics since 1931 shows an almost continuous rise in the number of admissions, the only interruption in this rise being in 1938 and the three following years when a considerable number of beds were reserved for casualties. Even during these years, however, the numbers of admissions were not greatly reduced. In 1932 there were 27,052 admissions, and in 1944 as above stated, 35,133.

The proportion of deaths occurring in hospital for many years averaged between 13 and 14 per cent., and in 1944 it was 10·4 per cent.

The average days' residence of patients has also been reduced in the past eleven years from 37·44 to 29·49, indicating increased activity in examination, diagnosis and treatment.

At the end of the year, out of a total of 2,796 patients in the four general hospitals, there were only 179 Service and 246 E.M.S. Scheme cases. In addition to the accommodation in the four general hospitals, Corporation patients were also treated at Gartloch and Lennox Castle. At the end of the year there were 208 such patients in Gartloch and 215 in Lennox Castle. But for the additional accommodation provided in these two institutions the waiting list position would have become unmanageable.

At the end of 1944 there were 497 London evacuee patients in Stobhill, Southern General, Gartloch, and Lennox Castle Hospitals.

It will be observed, that the number of cases delivered in the four general hospitals during the year was 5,104, as against 5,433 in 1943. The Maternity Unit at Lennox Castle, however, was in full working order and during the year there were 1,146 births in that institution.

**STOBHILL, EASTERN, AND WESTERN DISTRICT HOSPITALS.**—Stobhill is still part of the Emergency Hospital Scheme and retains Government beds for emergency use. There were 205 Service and E.M.S. patients under treatment at the end of the year, but otherwise the hospital was occupied by ordinary civilian cases.

*Staff—Medical.*—The recruitment of young medical officers for the Forces continued as before, but the staff generally was kept up to strength. Male resident officers are not usually permitted to engage for a second or third term of six months.

*Out-Patient Department.*—The Out-Patient Departments continue to expand and below is a table showing the number of patients who were treated at the three hospitals :—

	Stobhill.	Eastern District.	Western District.
Number of Cases attending as Out-Patients	10,497	12,232	10,188
Number of Attendances ... ..	40,752	19,536	38,098

*Dental Treatment.*—No change is to be noted in the provision of dental treatment for both out-patients and in-patients.

*Pathological and Biochemical Laboratories.*—The following table shows the work of these laboratories :—

Autopsies ... ..	332
Histological Reports ... ..	633
Biological Tests ... ..	39
Bacteriological and 'Serological Reports ... ..	9,420
Wassermann Reactions ... ..	11,580
Kahn Tests... ..	4,149
Colloidal Gold Tests ... ..	194
Grouping Tests for Blood Transfusion Service ... ..	5,009

**BIOCHEMICAL DEPARTMENT.**

Biochemical Analyses ... ..	9,376
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*Refereeing of Cases.*—The Board of Referees examined 562 cases, an average of 11 per week.

*Electro-Medical Departments.*—The following table shows the work of the Electro-Medical Departments :—

	Stobhill.	Eastern District.	Western District.
Number of Radiographic Films taken ...	18,070	282	5,494
Number of Barium Meals ... ..	955	—	137
Number of Deep Therapy Treatments ...	6,312	—	—
Number of Cases treated by Radium ...	43	—	—
Number of Sunlight Treatments given ...	1,945	1,036	2,731
Number* of Cases treated by Massage ...	3,451	189	761
Number of Massage Treatments given ...	22,498	3,168	6,924
Number of Cases treated by Electricity	475	127	112
Number of Electrical Treatments given	7,957	1,824	2,313
Number of Electrocardiographs ... ..	35	—	—

The total number of radiographic films taken at the three hospitals was 23,846, compared with 21,050 in the previous year, and this is an indication of the increase in the work of the X-Ray Departments.

*SOUTHERN GENERAL HOSPITAL.*—The daily number of patients in residence and the highest and lowest figures for 1944 are shown on page 139.

*Out-Patients.*—Out-patient attendances numbered 45,046 with 42,990 in the previous year. The following table shows the work in more detail :—

REPORT OF PATIENTS AND ATTENDANCES AT OUT-PATIENT DEPARTMENT  
FOR YEAR ENDED 31ST DECEMBER, 1944.

	Persons Attended.	Total Attendances.
Medical and Surgical ... ..	4,398	19,938
Nervous Diseases... ..	115	639
Skin Diseases ... ..	1,273	4,941
Diabetes ... ..	37	681
Ear, Nose and Throat ... ..	902	1,707
Ante-Natal ... ..	656	2,366
Post-Natal... ..	454	1,234
Diseases of Women ... ..	289	875
Dental ... ..	272	1,059
X-Ray Treatment ... ..	4,636	4,636
Massage Treatment ... ..	326	4,583
Light Treatment... ..	225	2,221
Eye Treatment ... ..	96	166
	<u>13,679</u>	<u>45,046</u>

There has been a continued increase in the number of patients treated, particularly of medical and surgical cases.

*Surgical Department.*—Operations under general or spinal anaesthesia numbered 3,420 as compared with 2,828 in the previous year.

*X-Ray Department.*—The following table shows the amount of work done in the X-Ray Department :—

Number of Patients X-rayed ... ..	8,806
Number of Films used ... ..	19,480
Number of Barium Examinations ... ..	763
Number of Screen Examinations ... ..	1,779
Number of Deep Therapy Treatments ... ..	2,172
Number of Sunlight Treatments ... ..	4,208

The number of X-ray films used was 19,480 as compared with 17,314 in 1943. In addition there were large numbers of barium investigations carried out. Treatments, numbering 2,172, by deep X-ray therapy were given.

## OBSTETRICAL WORK IN THE GENERAL HOSPITALS.

The number of cases delivered in hospital has shown a decrease from 5,433 in 1943 to 5,104 in 1944. Cases continued to be transferred from these hospitals early in the puerperium to the lying-in wards at Lennox Castle, where also over 1,000 cases were delivered. The following table summarises the work of the Obstetrical Departments in the four general hospitals :—

### GENERAL HOSPITALS—OBSTETRICAL SECTIONS.

#### DISMISSALS DURING 1944.

	Stobhill. Hospital.	Eastern District Hospital.	Western District Hospital.	Southern General Hospital.	Total.
<i>Cases delivered in Hospitals—</i>					
Dismissed Well ... ..	1,986	626	943	1,305	4,860
Died ... ..	22	1	1	2	26
Transferred ... ..	124	10	4	80	218
Total dismissals of Cases which were delivered in Hospital ...	<u>2,132</u>	<u>637</u>	<u>948</u>	<u>1,387</u>	<u>5,104</u>



	Stobhill Hospital.	Eastern District Hospital.	Western District Hospital.	Southern General Hospital.	Total.
<i>Method of Admission of above Cases—</i>					
Admitted during Ante-Natal period for treatment and deli- vered in Hospital ... ..	76	15	25	72	188
Admitted to Labour Ward ...	2,019	620	923	1,315	4,877
Admitted to Labour Ward (via Glasgow Royal Maternity Hos- pital) ... ..	37	2	—	—	39
Total ... ..	<u>2,132</u>	<u>637</u>	<u>948</u>	<u>1,387</u>	<u>5,104</u>
Cases admitted during Ante-Natal period—Dismissed undelivered	<u>400</u>	<u>115</u>	<u>132</u>	<u>296</u>	<u>943</u>
Cases admitted after Delivery ...	<u>98</u>	<u>3</u>	<u>8</u>	<u>60</u>	<u>169</u>
Abortions and Miscarriages ...	<u>794</u>	<u>67</u>	<u>77</u>	<u>450</u>	<u>1,388</u>
Infants dismissed Alive ... ..	1,987	583	891	1,280	4,741
Infants Still-born ... ..	78	24	43	78	223
Infants Neo-Natal Deaths... ..	109	34	32	68	243
Total ... ..	<u>2,174</u>	<u>641</u>	<u>966</u>	<u>1,426</u>	<u>5,207</u>

The incidence of puerperal morbidity and mortality is shown in the following table :—

#### PUERPERAL FEVER AND PYREXIA.

Hospital.	No. of Cases.		Cases per		No. of Deaths.	Deaths per		Case Mor- tality.	
			1,000 Births.			1,000 Births.			
	Fever.	Pyrexia.	Fever.	Pyrexia.	Fever.	Non- Septic.	Non- Septic.	Fever.	
Stobhill ...	21	26	9.5	11.8	3	31	1.4	14.1	—
Eastern District	2	6	3.1	9.1	1	2	1.5	3.1	—
Western District	8	9	8.3	9.3	2	5	2.0	5.2	—
Southern General	10	13	7.1	9.2	—	8	—	5.7	—
Total ...	41	54	7.8	10.3	6	46	1.1	8.7	14.6

The number of deaths associated with the Obstetrical Departments was 56 as compared with 68 in the previous year. The death-rate per 1,000 births was 9.8 as compared with 11.2 and the death-rate from puerperal sepsis decreased from 1.8 to 1.1. The case mortality from sepsis was 14.6 per cent. as against 20 per cent. in 1943.

## DIABETES—SUPPLY OF INSULIN

Supplies of insulin are given to persons whose circumstances warrant such assistance and who are not already provided for under the National Insurance Scheme or Public Assistance.

The following statement summarises the changes in the Roll during 1944 :—

Cases on the Roll at 31st December, 1943	...	...	...	260
Cases applying for the first time during 1944	...	...	58	
Cases who discontinued treatment prior to 31st December, 1943, but reapplied during 1944	...	...	21	
			<hr/>	79
				<hr/>
				339
Cases who died during 1944	...	...	21	
Cases who discontinued treatment during 1944	...	...	29	
			<hr/>	50
				<hr/>
Leaving cases on the Roll at 31st December, 1944	...	...		289
				<hr/>
				<hr/>

Of the 58 new cases applying for the first time during 1944, 37 were married women and 17 widows. Two, while of insurable age, were outwith the National Insurance Scheme and two were children under 16 years of age.

The 29 cases who discontinued were visited, and the following reasons were given for discontinuance :—

Gone away, not found at address given	...	...	...	...	8
Discontinued on medical advice	...	...	...	...	5
Discontinued of own accord	...	...	...	...	7
In hospital	...	...	...	...	1
Obtaining supplies elsewhere (per P.A.D., N.H.I., etc.)	...	...	...	...	8
				<hr/>	
					29
					<hr/>
					<hr/>

Of the 289 cases on the Roll at 31st December, 1944, 25 are males and 264 females.

The preponderance of married women on the Roll is still maintained at 67 per cent.

Married Women	...	...	193
Widows	...	...	53
Unmarried Women	...	...	12
Uninsured Males	...	...	16
Children under 16 years	...	...	15
		<hr/>	
			289
			<hr/>
			<hr/>

The age distribution is as follows :—

Under 10 years	...	...	6
„ 20 „	...	...	13
„ 30 „	...	...	10
„ 40 „	...	...	17
„ 50 „	...	...	37
„ 60 „	...	...	88
„ 70 „	...	...	96
„ 80 „	...	...	18
80 and over	...	...	3
Not stated	...	...	1
			<u>289</u>

The various types of insulin issued to these 289 cases are :—

Ordinary Strength (20 units per c.c.)	...	...	...	66
Double Strength (40 units per c.c.)	...	...	...	38 + (10)
Extra Double Strength (80 units per c.c.)	...	...	...	5 + ( 9)
Protamine Zinc (40 units per c.c.)	...	...	...	145
Protamine Zinc (80 units per c.c.)	...	...	...	28
Globin (80 units per c.c.)	...	...	...	7
				<u>289</u>

The figures in brackets indicate the number of cases using these insulins in combination with one or other of the Protamine Insulins or with Globin.

Owing to a considerable fall in the price of insulin in 1944 there is for the first time a reduction in the total cost of insulin supplied during the year, and this despite the fact that the actual amount issued shows an increase over the previous year.

	1943.	1944.
Amount of Insulin supplied by the Central Drug Store (number of phials) ... ..	18,080	19,555
Cost (including syringes, repairs, and needles) ...	£1,882	£1,691

The increased use of the more potent insulin continues.

	1943.	1944.
Ordinary Strength (20) ... ..	5,070	4,885
Double Strength (40) ... ..	4,788	4,636
Extra Double Strength (80) ... ..	616	637
Protamine Zinc (40) ... ..	5,927	7,283
Protamine Zinc (80) ... ..	1,593	1,765
Globin (40) ... ..	—	63
Globin (80) ... ..	86	286
		<u>19,555</u>
		<u>18,080</u>

## PART IV.

### MENTAL SERVICES.

In the Annual Reports of recent years attention has been drawn to the serious state of overcrowding existing in the mental hospitals and certified institutions and to the shortage of nursing staffs brought about mainly by war conditions. In the year under review there has been no improvement ; if anything, conditions in both of these respects are worse. The Mental Hospitals continue to be taxed to the uttermost and great difficulty has been experienced in finding accommodation for insane patients. As a consequence, the Psychiatric Units of the General Hospitals have had to continue to retain many cases who should have been certified and removed to mental hospitals. These units have not been able to fulfil adequately their proper function, namely, the treatment of psychoneurotics and cases of early recoverable mental disorders.

No improvement can be looked for until more accommodation becomes available in the mental hospitals, but even if accommodation were available, little use could be made of it at present as it has been found almost impossible to recruit sufficient nurses to maintain a safe minimum of staff for the existing accommodation even under conditions of increased working hours. In one of the large mental hospitals wards have actually remained unoccupied owing to the lack of nurses. Every avenue of recruitment has been explored but even with the fullest co-operation of the Ministry of Labour and National Service and of the Department of Health for Scotland, the number of nurses coming forward has proved quite inadequate to meet the needs of the mental hospitals. It is to be hoped that when hostilities cease and the demands of the Services and of industry are no longer so clamant as they have been in recent years, more girls may be attracted to nursing. Until this occurs the outlook will remain very uncertain.

Although the number of certified cases admitted during the year to the mental hospitals again shows an increase of 32 over last year's figure which was the highest of the war years, no useful conclusion



relative to the incidence of mental disease can be drawn from this fact as, doubtless, more patients would have been admitted had accommodation been available. The increase of admissions was related to the fact that beds became available owing to a corresponding increase in the number of patients who died or were discharged.

Modern forms of treatment continue to be utilised in all the mental hospitals with satisfactory results considering the types of patients admitted to them. As more than seventy per cent. of the cases admitted to those hospitals had already been under treatment in the psychiatric units of the general hospitals and had failed to respond to treatment there, a large proportion of them were of the more difficult or more chronic types who are less likely to react favourably to treatment. It is to the credit of the mental hospitals that such a satisfactory recovery rate is maintained year after year despite the less hopeful nature of the cases admitted.

Owing to great difficulty in finding accommodation in the psychiatric units for female patients particularly, it was found necessary during the year to establish a waiting list of the less urgent patients. These patients, while remaining in their own homes, are visited regularly by the district health visitors who report on their progress and on the development of any untoward symptoms which might necessitate urgent removal to hospital. So far this arrangement has worked fairly well and no incidents of a serious nature have occurred but the whole position is a potentially dangerous one. No improvement can be looked for, however, until the recruitment of nurses reaches more normal proportions.

*Admissions, Discharges, and Deaths.*—The number of certified cases admitted to the mental hospitals during the year was 356, an increase of 32 over the number admitted during the previous year. Many cases of certifiable mental disorder have still to be retained in the psychiatric units of the general hospitals owing to the lack of accommodation in the mental hospitals.

There were 3,177 patients under care in the mental hospitals during the year, as compared with 3,133 during the previous year; the number remaining in the Corporation mental hospitals on 31st December, 1944, was 2,838 as compared with 2,809 on the corresponding date in 1943. In addition there were 112 Smithton cases boarded temporarily in Gartloch by the Renfrewshire Authority and 16 Glasgow

cases remaining in the farm colony at Gartloch. The latter were retained at Gartloch for work on the farm and grounds when the other certified patients were evacuated to other mental hospitals at the beginning of the war when Gartloch was taken over by the Department of Health for Scotland as an Emergency Hospital.

The number of patients discharged recovered was 109, of whom 76 were from Hawkhead. This number shows a slight increase over the figure for the previous year, when the number was 93, and is a fairly satisfactory result considering the types of patients admitted. During the year 103 cases of Schizophrenia, 11 cases of Paranoia, 26 cases of Senile Dementia and 13 cases of General Paralysis were admitted, all of which forms of disorder are of less hopeful outlook than the Manic-Depressive and Confusional types of insanity, of which 89 cases were admitted.

Owing to the absence of any serious epidemics and to the general good health of the community, the death rate was again a low one in the mental hospitals. The death rate for a number of recent years has been remarkably low and the year under review proved no exception; 166 patients died during the year of whom more than fifty per cent. were over the age of sixty years. As in previous years the commonest causes of death were cardio-vascular degeneration, respiratory diseases and senile degeneration.

Of the patients discharged recovered, the great majority were discharged within two years of admission; thus 72 per cent. were discharged within one year, 11 per cent. after one year and within two years, 11 per cent. after two years and within five years, and 6 per cent. after residence of more than five years. Two male and four female patients were discharged recovered after continuous residence of more than five years. The opposite tendency is seen in the patients who died, of whom upwards of 52 per cent. had been resident for more than five years.

The causative factors in the production of mental disorders are extremely difficult to determine with any degree of accuracy. Constitutional and environmental factors both play an important part. In the cases admitted during the year the assigned cause in upwards of 41 per cent. was constitutional inferiority, while mental stress, menopause and senility accounted for the breakdown in many of the admissions. In less than 4 per cent. was the breakdown attributed

to war strain and alcohol was considered to be the main causative factor in 15 cases. There is no direct evidence to show that war conditions have materially increased the incidence of insanity amongst the civil population.

*Patients in other Institutions.*—At 31st December, 1944, there were 486 Glasgow patients boarded out in institutions owned by other authorities, a decrease of 23 from the number at the corresponding date in 1943. This figure does not include the patients transferred to Lochgilphead and the Glasgow Royal Mental Hospital, Gartnavel, from Gartloch on the outbreak of war in 1939.

*Admission of Lunatics from H.M. Prisons.*—There was a slight decrease in the number of "Fiscal Cases" admitted during the year; 80 of these cases (71 men and 9 women) were admitted as compared with 100 during the previous year. The large number of these so-called "Fiscal" cases causes considerable embarrassment in the administration of the mental hospitals owing to the restrictions necessarily imposed in the care and supervision of this class of patient. Other ordinary patients housed along with them suffer through these restrictions and resent being treated alongside the "Fiscal" cases, with the result that an ever-increasing strain is thrown on the nursing staff. When the State Institution at Carstairs reverts to its proper function after the war it is hoped that some relief from this difficult situation may be obtained.

*Licensed Wards in Southern General Hospital.*—The 389 beds provided in these wards continued to be used to their full capacity during the year. The accommodation set aside for the treatment of illness and infirmity amongst the patients, most of whom are of the ambulatory type, has continued to serve a useful purpose in obviating the transfer of such cases to the hospital wards of the mental hospitals, which are already taxed to their full capacity.

*Dental Services in the Mental Hospitals and Certified Institutions.*—Mr. John Kyd, L.D.S., the dental surgeon to the mental institutions, carried out the following treatment during the year: 2,060 patients were examined, including 7 who refused treatment; 2,630 extractions; 64 fillings; 4 root treatments; 8 dressings; 55 scalings; 152 dentures supplied; 12 dentures remodelled; and 129 dentures repaired. As a

result of the care and attention given to the mouths and teeth of the patients there has been a marked improvement in their general health and well-being.

## CERTIFIED INSTITUTIONS FOR MENTAL DEFECTIVES.

LENNOX CASTLE.—The number of certified mental defectives in this institution at the end of the year was 1,292, an increase of 45 compared with the previous year; 120 cases were admitted; 56 cases were discharged and 19 cases died during the year. Of the admissions, 48 came from their own homes, 39 from other certified institutions, 27 from other hospitals and institutions, 2 from approved schools and 4 from H.M. Prisons. Of the discharges, 23 patients were discharged to the care of friends, 21 on expiry of certificate and 12 were transferred to other certified institutions.

The high proportion of dangerous and criminal defectives admitted under Sections 9 and 10 of the Mental Deficiency and Lunacy (Scotland) Act, 1913, continues to add to the difficulties of administration of the institution already embarrassed by shortage of staff and overcrowding. It is hoped that this difficulty will be relieved to some extent when the State Institution at Carstairs is reopened for defectives.

The work in connection with the treatment and training of the juvenile delinquent defectives has continued throughout the year on a high standard and has met with a good response from the boys who continue to show great improvement in their general behaviour and physical condition.

It is a matter of regret that owing to shortage of supply of materials as the result of war-time restrictions, the occupational therapy departments of the institution have had to curtail their activities. Occupational therapy has always been recognised as of great importance in the treatment and training of defectives and although an increased number of male patients has been employed in the gardens and grounds, the greater variety of occupations normally provided in the workshops has been sadly missed.

Difficulty in maintaining an adequate staff of nurses continued throughout the year. Miss Belinda Mason was appointed Matron in the early months of the year and took up her duties in May.



CALDWELL HOUSE CERTIFIED INSTITUTION.—Miss Young, Superintendent, reports as follows :—On 31st December, 1944, the number of patients was 127 (78 male and 49 female), an increase of 2 on the corresponding figure for last year. There were 14 admissions (5 male and 9 female). Nine were admitted from their own homes, three from the Southern General Hospital, one from Stobhill Hospital and one from Lennox Castle Emergency Hospital. Seven boys and three Girls were transferred to Lennox Castle Certified Institution on attaining the age of sixteen years. One boy was discharged to the care of his parents. Two boys died, one from Pulmonary Tuberculosis and one from Lobar Pneumonia and Epilepsy.

During Christmas week the children entertained their parents and friends by performing a Fairy Operetta entitled "The Enchanted Emerald." The performance by the children was beyond praise and reflects great credit on Miss Young and her staff for their untiring patience and sympathy in the training of the children.

#### PSYCHIATRIC UNITS IN THE GENERAL HOSPITALS.

During the year the number of admissions to the psychiatric units of the general hospitals was 1,833 and the total number of cases treated was 2,211. These figures compare with 1,531 and 1,911 respectively for the previous year. There were, in addition, 152 patients admitted to the Neuro-Psychiatric Unit at Gartloch Emergency Hospital, where a number of beds was taken over in 1941 to relieve the pressure on the overcrowded observations wards of the general hospitals.

Of the 2,211 cases treated in the general hospitals, 1,252 (56·6 per cent.) were sufficiently recovered to be sent home or, where they had no home, to an institution under the Welfare Department; 328 patients died (14·8 per cent.), the majority of whom were old people suffering from senile dementia; 247 (11 per cent.) were certified and transferred to mental hospitals or certified institutions for further treatment. These percentages are almost identical with the corresponding ones for the previous year.

Overcrowding has been very marked, particularly on the female side of the Psychiatric Units, where the demand for beds for cases of senile dementia has been heavy. During the year it was found necessary to establish a waiting list of female patients. These patients,

while remaining at home, are visited regularly by health visitors who report on their progress or on the development of any untoward symptoms necessitating their removal to hospital as a matter of urgency.

Dr. Alexander Dick, Visiting Psychiatrist to the Southern General Hospital, in his report draws attention to the difficulty in the disposal of old people, psychotics and feeble-minded persons who occupy beds in the Psychiatric Units to the exclusion of psychoneurotics and cases of incipient insanity, for the treatment of whom the Psychiatric Units were established in the general hospitals. He also points out that, with the exception of insulin treatment for Schizophrenia, which was discontinued owing to staffing difficulties, modern methods of treatment have been employed with satisfactory results. The use of Sodium-Amytal in the treatment of certain types of neurosis by Narco-Analysis has yielded most satisfactory results.

The Psychiatric Clinics at the Southern General Hospital and at Cochrane Street have continued to function increasingly throughout the year and provide a useful service in connection with the mental health of the community.

For the duration of the war it has been decided to discontinue the publication of several of the statistical tables relating to the mental hospitals and of individual hospital's reports, but in the following tables will be found the more important details of the admissions, discharges and deaths for the year 1944.

SHOWING NUMBERS ADMITTED TO GLASGOW MENTAL HOSPITALS  
AND THE CHANNELS THROUGH WHICH THEY WERE ADMITTED  
DURING THE YEAR 1944.

	Hawkhead.		Woodilee.		Stoneyetts.	
	M.	F.	M.	F.	M.	F.
Observation Wards ... ..	63	58	38	47	6	14
Home, Police Stations, Infirmary, etc.	3	9	7	13	3	2
Transferred from other Asylums or Certified Institutions ... ..	4	6	1	—	—	1
H.M. Prisons ... ..	40	2	31	7	—	—
Totals ... ..	<u>110</u>	<u>75</u>	<u>77</u>	<u>67</u>	<u>9</u>	<u>17</u>

# FORMS OF MENTAL DISORDER IN THE ADMISSIONS, RECOVERIES AND DEATHS IN THE MENTAL HOSPITALS DURING 1944.

INHERENT DEVELOPMENTAL DEFECTS—									
	Admissions.			Recoveries.			Deaths.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
Mental Deficiency—									
(a) Idiocy ...	—	—	—	—	—	—	—	—	—
(b) Imbecility ...	3	1	4	—	—	—	5	2	7
(c) Feeble-mindedness ...	2	5	7	—	—	—	—	—	—
(d) Moral Imbecility ...	16	2	18	9	—	9	—	—	—
Epileptic Insanity ...	11	5	16	1	2	3	11	3	14
Schizophrenia—									
(a) Simple ...	23	11	34	4	4	8	3	4	7
(b) Hebephrenic ...	19	14	33	6	4	10	6	3	9
(c) Katatonic ...	2	2	4	—	—	—	2	2	4
(d) Paranoid ...	18	14	32	7	1	8	3	3	6
Paraphrenia ...	6	5	11	2	5	7	7	2	9
Paranoia ...	7	4	11	—	1	1	2	1	3
Psychoneuroses—									
(a) Neurasthenia ...	—	—	—	—	—	—	—	—	—
(b) Psychasthenia ...	1	2	3	—	—	—	—	—	—
(c) Hysteria ...	1	—	1	—	—	—	—	—	—
(d) Neurosis ...	1	—	1	—	—	—	—	—	—
TOXIC AND CONFUSIONAL PSYCHOSES—									
Manic Depressive									
Psychosis ...	39	40	79	14	30	44	2	10	12
Acute Delirium ...	1	—	1	—	—	—	—	—	—
Acute Confusion ...	5	4	9	3	—	3	1	3	4
Stupor ...	—	—	—	—	1	1	1	—	1
Exhaustion Psychosis	—	—	—	—	—	—	—	—	—
Alcoholic Insanity—									
(a) Delirium Tremens	—	—	—	—	—	—	—	—	—
(b) Mania a Potu ...	1	—	1	—	—	—	—	—	—
(c) Korsakoff's Psychosis	—	1	1	—	—	—	—	—	—
(d) Chronic Alcoholic Insanity ...	10	—	10	4	—	4	—	1	1
Cocaine, Morphine and other Drug Insanities	—	—	—	—	—	—	—	—	—
Involuntary Psychoses	3	13	16	—	3	3	—	1	1
ACQUIRED DEFECTS—									
Pre-Senile Psychosis	3	11	14	—	—	—	4	1	5
Senile Dementia—									
(a) Simple ...	4	6	10	—	—	—	11	23	34
(b) With Mania ...	3	8	11	—	1	1	2	6	8
(c) With Depression	2	1	3	—	—	—	2	4	6
(d) With Presbyophrenia ...	—	2	2	—	—	—	—	—	—
General Paralytic Dementia ...	9	4	13	—	—	—	15	2	17
Traumatic Dementia ...	—	—	—	—	—	—	—	—	—
Organic Dementia—									
(a) Tumour ...	—	—	—	—	—	—	1	—	1
(b) Gumma ...	—	—	—	—	—	—	—	—	—
(c) Arterio-sclerosis	1	2	3	1	1	2	7	4	11
(d) Meningitis ...	—	—	—	—	—	—	—	—	—
(e) Encephalitis ...	1	1	2	2	2	4	4	2	6
(f) Other Cerebral Diseases	3	1	4	—	—	—	—	—	—
(g) Huntington's Chorea ...	—	—	—	—	—	—	—	—	—
Psychopathic Personality	1	—	1	—	—	—	—	—	—

## PSYCHIATRIC UNITS IN GENERAL HOSPITALS.

	Stobhill.		Eastern District.		Southern General.		Total.
	M.	F.	M.	F.	M.	F.	
Remaining at 31st December, 1943	103	117	28	29	76	25	171
Admitted during 1944	447	363	91	49	140	163	575
							1,833
Number treated	550	480	119	78	197	188	746
							2,211
Number discharged Home or transferred to Poorhouse	280	167	49	32	81	97	296
Number Died	108	122	30	10	40	11	143
Number removed to Asylum	58	63	14	7	21	66	136
Number remaining at 31st December, 1944	104	128	26	29	55	14	171
							384

## ADMISSIONS, DISCHARGES AND DEATHS IN THE MENTAL HOSPITALS DURING 1944.

	Woodilee.		Hawkhead.		Stoneyetts.		Total.
	M.	F.	M.	F.	M.	F.	
On Register at 31st December, 1943	669	628	689	560	141	134	1,322
Number of Cases admitted during the year	77	68	110	75	9	17	169
							356
Total Cases under care during the year	746	696	799	635	150	151	1,481
							3,177
Cases discharged and Died during the year—							
Recovered	5	21	46	30	2	5	56
Not Recovered	16	4	16	—	—	1	5
Died	35	36	47	35	7	6	77
Transferred to other Institutions in Scotland and boarded out in private dwellings	5	5	4	11	1	1	17
Total Cases discharged and Died during the year	61	66	113	76	10	13	155
							339
Total Cases on Register at 31st December, 1944	685	630	1,315	559	1,245	140	1,326
							2,838